

**GRANT ROAD REVERSIBLE LANE  
TRAFFIC FLOW AND CRASH ANALYSIS  
WITH AN UPDATE OF THE  
BROADWAY REVERSIBLE LANE STUDY**

*Prepared for*  
**City of Tucson**

*Prepared by*  
The logo for TRANSCORE, featuring the word "TRANSCORE" in a blue, sans-serif font. A blue swoosh underline is positioned above the letters "SCORE".

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## **1. PURPOSE AND BACKGROUND**

The primary purpose of this study is to evaluate the traffic volume and crash impacts of the removal of the reversible traffic lane application from Grant Road between Stone Avenue on the west and Swan Road on the east. A secondary purpose of the study is to update the crash analysis that was conducted in an earlier study (*Crash Analysis of Reversible Lane Removal on Broadway Boulevard and 6<sup>th</sup> Street*, April 2004) to evaluate the impacts of removing the reversible lane on Broadway Boulevard between Euclid Avenue on the west and Country Club Road on the east. Exhibit 1 indicates the location of the reversible lane application on Grant Road evaluated in this study, and the location of the Broadway Boulevard study area.

Grant Road, between Stone Avenue and Swan Road, has a five-lane cross section with two through lanes in each direction and a continuous two-way left-turn lane (TWLTL). For many years the TWLTL was operated as a reversible through traffic lane, providing an additional westbound through lane from 7:00 AM to 9:00 AM, and an additional eastbound through lane from 4:00 PM to 6:00 PM. This application was implemented as a congestion management measure along this heavily developed urban arterial, in conjunction with similar applications on three other east/west arterials in the Tucson urban core. Operation of the Grant Road reversible lane was terminated on June 20, 2004.

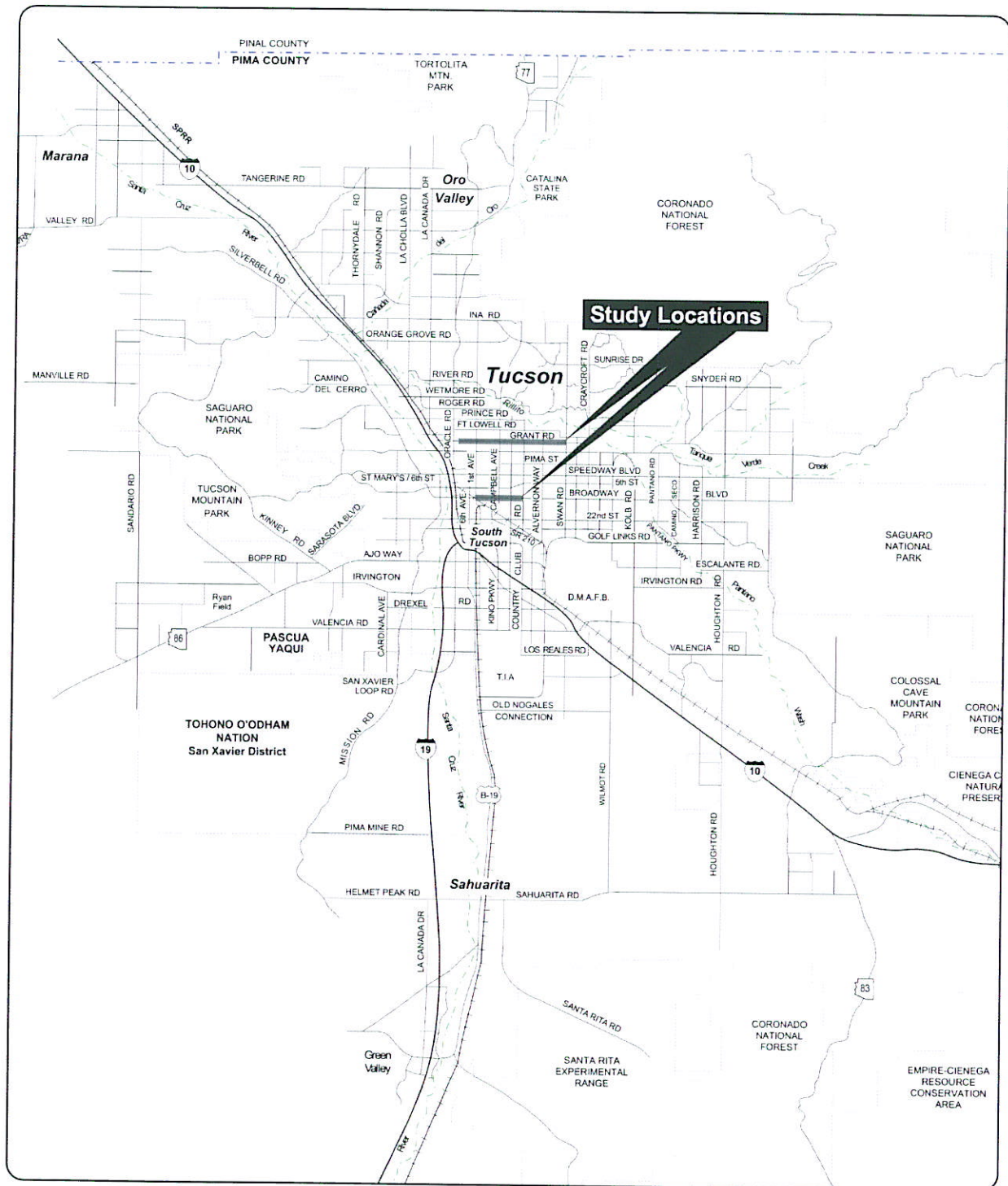
Left-turns from Grant Road were prohibited during the operation of the reversible lane. Signs over the TWLTL, and posted at the roadside, indicated the reversible lane hours of operation, direction of operation, and the prohibition of the left-turn movement.

Throughout its history, the public often expressed concern about the safety of the reversible lane through letters to the editor of the local newspapers and comments at public meetings on transportation issues. The application was often referred to as the “suicide” lane by the public and the local media. The City of Tucson eventually removed each of the reversible lane applications. A study conducted by the Federal Highway Administration of the reversible lane operations showed them to be among the safest in the nation (FHWA/RD-85/010, *Traffic Control for Reversible Flow Two-Way Left-Turn Lanes*, October 1984.). In fact, when the earliest reversible lane was removed from service along 6<sup>th</sup> Street, crashes increased. The removal of the reversible lane along Speedway Boulevard was done after the roadway was widened with the inclusion of a raised median. The Broadway reversible lane was terminated in February 2001.

The evaluation of the traffic and crash impacts of the reversible lane removal was conducted based on a comparison of before and after data. Traffic volume and crash data provided by the City of Tucson for the “before” and “after” conditions were compiled, summarized, and compared as part of this study. This assessment, along with the results and conclusions are provided in this document.



# Exhibit 1 PROJECT STUDY LOCATIONS



## ***2. EVALUATION OF THE TRAFFIC IMPACTS OF REVERSIBLE LANE REMOVAL***

### **2.1 STUDY METHODOLOGY**

There was concern by the City of Tucson that the removal of the reversible lane, and the subsequent congestion along Grant Road, might encourage traffic to divert to other roadways in the corridor. The traffic impacts of the reversible lane removal along Grant Road were evaluated through a comparison of the east/west traffic volumes in a corridor centered around Grant Road. The study segment of the roadway is approximately 4.6 miles long. The corridor extended one mile north and south of Grant Road and included the following primary east/west traffic arterials and collectors in the corridor:

- Fort Lowell Road
- Glenn Street
- Grant Road
- Pima/Elm Street
- Speedway Boulevard

Traffic volume data were collected by the City of Tucson along three north/south screenlines crossing the corridor. A screenline is an imaginary line that crosses each of the east/west roadways. Traffic volume data were collected on each of the east/west roadways at each screenline before and after the removal of the reversible lane. Exhibit 2 indicates the location of each of the screenlines, and their position relative to the east and west ends of the study roadway. The screenlines were placed approximately midway between each of the following north/south roadway pairs:

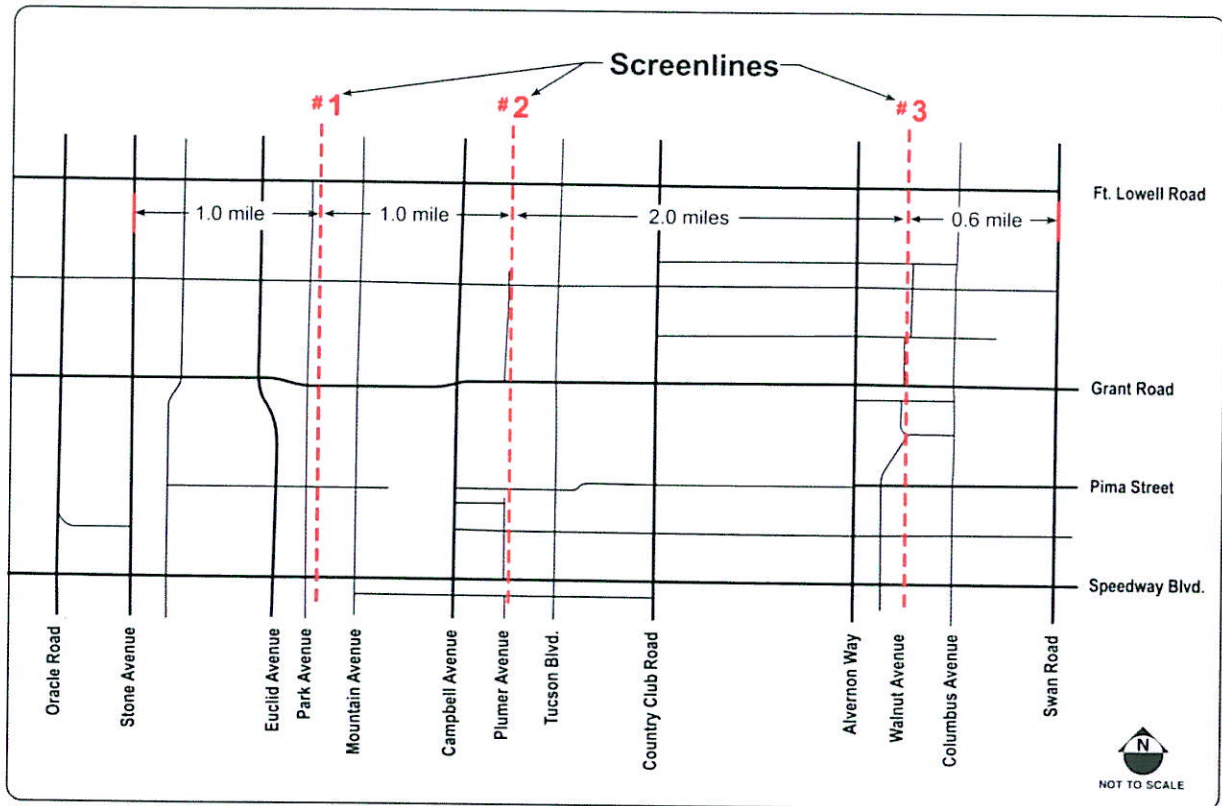
- Screenline #1: Between First Avenue and Mountain Boulevard
- Screenline #2: Between Campbell Avenue and Tucson Boulevard
- Screenline #3: Between Alvernon Way and Columbus Boulevard

The before period traffic data were collected on April 14 and 15, 2004, and the after period data were collected on April 26 and 27, 2005, and May 16 and 17, 2005 (Grant Road at Screenlines #1 and #2). The City provided 48 hour traffic counts by hour of the day. These data were summarized into the following for the before and after conditions at each screenline:

- Average 24-hour volume by direction of travel.
- Average 24-hour volume total for both directions of travel.
- Average AM peak-period volume by direction of travel (morning 2-hours of reversible lane operation).
- Average AM peak-period volume for both directions of travel.
- Average PM peak-period volume by direction of travel (afternoon 2-hours of reversible lane operation).
- Average PM peak-period volume for both directions of travel.
- Combined AM and PM peak-period average volume by direction of travel.



## Exhibit 2 TRAFFIC COUNT SCREENLINE LOCATIONS



- Combined AM and PM peak-period average volume for both directions of travel.
- The total traffic during each peak-period and for the average 24-hour period crossing each screenline.
- The proportion (in percent) of total traffic crossing each screenline on each of the roadways.

These summaries were used in an attempt to draw conclusions on the impact of the reversible lane removal on any potential redistribution of traffic within the study corridor. The results of the analysis and the conclusions are presented in the following sections. Additional detail on the traffic volume data is provided in the Appendix.

## 2.2 TRAFFIC ANALYSIS RESULTS

### 2.2.1 Daily Traffic Analysis

A summary of the daily traffic volume data for each screenline, and a comparison of the data before and after, are provided in Exhibit 3. The data in Exhibit 3 indicate a significant overall reduction in traffic volume crossing each screenline. This is the case for the total volume for all roadways and for virtually each roadway at each screenline. The decrease in daily traffic volume shown in Exhibit 3 is also exhibited for each direction of travel, as shown in the Appendix.



**Exhibit 3**  
**TWO-WAY 24-HOUR VOLUME COMPARISON**

Screenline									
Street Name	1			2			3		
	Before	After	Difference %	Before	After	Difference %	Before	After	Difference %
<b>Fort Lowell</b>	33,045	23,202	-29.8	32,538	30,665	-5.8	27,223	26,579	-2.4
<b>Glenn</b>	9,737	9,104	-6.5	12,083	11,299	-6.5	7,136	7,197	0.9
<b>Grant</b>	44,626	44,207	-0.9	43,459	38,609	-11.2	44,956	41,707	-7.2
<b>Pima/Elm</b>	NA	NA	NA	4,393	3,845	-12.5	15,970	15,246	-4.5
<b>Speedway</b>	54,456	49,405	-9.3	64,117	54,700	-14.7	51,350	46,420	-9.6
<b>Total</b>	141,862	125,918	-11.2	156,589	139,118	-11.2	146,633	137,149	-6.5

NA = Not Applicable. Pima/Elm does not extend across this screenline.

The daily volumes crossing screenline 1 indicate a very large decline in volume on Fort Lowell with a very small (if any) decline in volume on Grant Road. This suggests that on the west end of the corridor, some traffic has shifted from Fort Lowell Road to Grant Road. It seems possible that allowing the left-turn movements from Grant Road has caused a slight redistribution of traffic at this end of the corridor. This possibility is also explored below in the AM and PM peak-period volumes.

The data in Exhibit 4 indicates the proportion of daily traffic crossing each screenline on each of the study roadways. As might be expected, there are no overall discernable trends in the daily traffic distribution resulting from the change in traffic management that affected only the AM and PM peak-periods. However, these data support the hypothesis that, on the west end of the corridor, traffic has shifted from Fort Lowell Road to Grant Road. There is an 11.6 percent increase in the proportion of traffic on Grant Road crossing screenline 1 and a 20.9 percent decrease in the proportion of traffic on Fort Lowell Road at this screenline.

**Exhibit 4**  
**PROPORTION OF DAILY TWO-WAY TOTAL TRAFFIC**  
**CROSSING A SCREENLINE ON EACH ROADWAY**

Screenline									
Street Name	1			2			3		
	Before %	After %	Difference %	Before %	After %	Difference %	Before %	After %	Difference %
<b>Fort Lowell</b>	23.3	18.4	-20.9	20.8	22.0	6.1	18.6	19.4	4.4
<b>Glenn</b>	6.9	7.2	5.3	7.7	8.1	5.3	4.9	5.2	7.8
<b>Grant</b>	31.5	35.1	11.6	27.8	27.8	0.0	30.7	30.4	-0.8
<b>Pima/Elm</b>	NA	NA	NA	2.8	2.8	0.0	10.9	11.1	2.1
<b>Speedway</b>	38.4	39.2	2.2	40.9	39.3	-4.0	35.0	33.8	-3.3
<b>Total</b>	100.0	100.0		100.0	100.0		100.0	100.0	

NA = Not Applicable. Pima/Elm does not extend across this screenline.

### 2.2.2 Peak-Period Traffic Analysis

The detailed traffic data for the AM and PM peak periods is presented in the Appendix for each peak period by direction of travel and for the combined AM and PM peaks. Only the data summary for the combined peak-periods is provided here, as the trends for the individual peaks are both consistent with those shown in combination.

Exhibit 5 provides the total two-way traffic data summary for the combined AM and PM peak-periods. These data also indicate a significant reduction in corridor traffic volume across each of the screenlines.

**Exhibit 5**  
**TWO-WAY AM + PM PEAK-PERIOD VOLUME COMPARISON**  
Screenline

Street Name	1			2			3		
	Before	After	Difference %	Before	After	Difference %	Before	After	Difference %
<b>Fort Lowell</b>	9,617	6,532	-32.1	8,981	8,474	-5.6	7,923	7,890	-0.4
<b>Glenn</b>	3,049	2,725	-10.6	3,483	3,309	-5.0	2,304	2,369	2.8
<b>Grant</b>	12,162	11,628	-4.4	11,625	12,162	4.6	11,942	10,487	-12.2
<b>Pima/Elm</b>	NA	NA	NA	1,497	1,316	-12.1	5,114	4,784	-6.5
<b>Speedway</b>	13,339	12,428	-6.8	16,766	14,498	-13.5	13,456	12,390	-7.9
<b>Total</b>	38,167	33,313	-12.7	42,351	39,759	-6.1	40,739	37,920	-6.9

NA = Not Applicable. Pima/Elm does not extend across this screenline.

The data in Exhibit 6 indicates the proportion of the peak-period traffic crossing each screenline on each of the study roadways. These data also suggest that on the west end of the corridor, traffic has shifted from Fort Lowell Road to Grant Road, and this appears to be in response to the removal of the reversible lane along with the removal of the prohibition of the left-turn movements from Grant Road. The proportion of corridor traffic using Fort Lowell Road within the corridor has declined by 22.2 percent crossing screenline 1 during the AM and PM peak-periods. The proportion of corridor traffic on Grant Road has increased by 9.5 percent across screenline 1 during the AM and PM peak-hours. The data in Exhibit 6 also suggest that some traffic may have moved from Speedway Boulevard and Pima/Elm Street to Grant Road in the middle of the corridor at screenline 2. The data indicate that the proportion of corridor traffic on Grant Road at screenline 2 increased by 11.4 percent while the proportions of traffic on Speedway Boulevard and Pima/Elm Street declined by 7.9 percent and 6.4 percent, respectively.



**Exhibit 6**  
**PROPORTION OF AM + PM PEAK-PERIOD TWO-WAY TOTAL TRAFFIC**  
**CROSSING A SCREENLINE ON EACH ROADWAY**

Street Name	1			2			3		
	Before %	After %	Difference %	Before %	After %	Difference %	Before %	After %	Difference %
<b>Fort Lowell</b>	25.2	19.6	-22.2	21.2	21.3	0.5	19.4	20.8	7.0
<b>Glenn</b>	8.0	8.2	2.4	8.2	8.3	1.2	5.7	6.2	10.5
<b>Grant</b>	31.9	34.9	9.5	27.4	30.6	11.4	29.3	27.7	-5.7
<b>Pima/Elm</b>	NA	NA	NA	3.5	3.3	-6.4	12.6	12.6	0.5
<b>Speedway</b>	34.9	37.3	6.7	39.6	36.5	-7.9	33.0	32.7	-1.1
<b>Total</b>	100.0	100.0		100.0	100.0		100.0	100.0	

NA = Not applicable. Pima/Elm does not extend across this screenline.

### 2.3 CONCLUSIONS FROM THE TRAFFIC ANALYSIS

Traffic volumes in the before period are significantly higher across each of the screenlines in total, and for almost all of the individual roadways at each screenline, than in the after period. There is no mechanism to explain this unexpected condition based on the data that were used in this study.

There is no overall trend in traffic volumes or in the proportion of volume within the corridor on individual roadways that would suggest a major redistribution of corridor traffic resulting from the removal of the reversible lane on Grant Road. However, these data do suggest that on the west end, and possibly in the middle of the corridor, some traffic has shifted to Grant Road from other parallel arterials in the corridor since the removal of the reversible lane. It is hypothesized that this shift is related to the removal of the prohibition of the left-turn movements on Grant Road that accompanied the removal of the reversible lane. The concern that an increase in congestion along Grant Road without the reversible lane would divert traffic to adjacent roadways is not supported by the traffic data.



### ***3. EVALUATION OF THE CRASH HISTORY BEFORE AND AFTER REMOVAL OF THE REVERSIBLE LANE***

#### **3.1 STUDY METHODOLOGY**

The impacts of the removal of the Grant Road reversible lane on crash history were evaluated through a “before” and “after” study of crash data provided by the City of Tucson. Individual crash reports were provided for a one-year time period before the removal of the reversible lane (June 19, 2003 through June 18, 2004), and for a one-year period after the removal of the reversible lane (June 20, 2004 through June 17, 2005). Only crashes that occurred during the days of the week (Monday through Friday) and time of day (7:00 – 9:00 AM and 4:00 – 6:00 PM) when the reversible lane was in operation were included in the analysis. The operation of the reversible lane was terminated on June 20, 2004.

The individual crash reports were reviewed and the following information compiled from each report:

- Crash report number
- Date of crash
- Time of day
- Day of week
- Name of the nearest cross street
- Number of vehicles involved
- Crash type
  - Left-turn
  - Rear end
  - Angle
  - Single vehicle
  - U-turn
  - Right-turn
  - Pedestrian
  - Sideswipe
  - Backing
  - Other
  - Head-on
- Crash severity (six injury codes are used on a crash report, but for this study, possible injury, non-incapacitating injury, and incapacitating injury were grouped into a single injury category)
  - No injuries
  - Injury
  - Fatal
  - Not reported/Unknown

- Day/Dark condition
  - Daylight
  - Dawn/dusk
  - Dark
- Involved a vehicle using the reversible lane (yes/no)
- Comment (an additional brief description of pertinent circumstances of the crash)

The complete summary tables of the crash data are provided in the Appendix for the before and after crash history. These data were reviewed and summarized to determine what, if any, impact the removal of the reversible lane has had on the crash history. The description of this analysis is provided in the following sections.

### **3.2 SUMMARY OF BEFORE AND AFTER CRASH HISTORY**

Exhibit 7 contains an overall summary of the before and after crash history. There were 163 crashes in the before period and 140 in the after period, a 14.1 percent decline. Forty-nine (30 percent) of the total before period crashes involved at least one vehicle using the reversible lane. In 21 (43 percent) of the crashes involving a vehicle in the reversible lane, a vehicle was indicated to be attempting an illegal left-turn (see discussion below). There were no fatal crashes in either the before or after periods.

Rear-end collisions make up the largest proportion of crashes by crash type in both the before and after conditions, with 61 percent before and 59 percent after. The number of rear-end collisions declined in the after period. However, rear-end collisions are not over represented in the crashes involving vehicles in the reversible lane.

The data in Exhibit 7 suggest that two of the crash types are over represented in the crashes that occurred in the reversible lane: sideswipe crashes and head-on crashes. The sideswipe crash type has the second highest number of crashes in the reversible lane, with 13 of the 17 before condition crashes of this type occurring in the reversible lane. The occurrence of sideswipe crashes also declined in the after period. Only one of the sideswipe crashes was indicated to be related to a vehicle attempting an illegal left-turn.

There were two head-on crashes in the reversible lane. Both of these crashes were indicated to be related to a vehicle attempting an illegal left-turn. There was only one head-on collision in the after period.

Left-turn crashes showed an increase in the after period in both the number of crashes and as a proportion of total crashes. This is not unexpected since in the before period left-turns from Grant Road were prohibited during the operation of the reversible lane.

Angle crashes declined in number from before to after (20 to 16 crashes, respectively), but the proportion of this crash type in the total number of crashes remained the same.

There were three pedestrian crashes in the before period and three in the after period. Pedestrian crashes make up a very small proportion of the total crash history. One of the pedestrian crashes



### Exhibit 7 SUMMARY OF GRANT ROAD CRASH DATA

Crash Data Before Reversible Lane Removed (6/19/03-6/18/04)									
			Before Crashes In Other Lanes		Before Crashes In Reversible Lane <sup>1</sup>		Crash Data After Reversible Lane Removed (6/19/04-6/19/05)		
	Before Number of Crashes	Percent Total Before Crashes	Number of Crashes	Percent Other Lanes Crashes	Number of Crashes	Percent Rvs. Ln. Crashes	After Number of Crashes	Percent Total After Crashes	Difference in Before and After Percent
<b>Total Crashes</b>	163		114		49		140		
In other lanes	114	70%							
In reversible lane <sup>1</sup>	49	30%							
<b>Day/Night</b>									
Daylight	142	87%	101	89%	41	84%	119	85%	-2%
Dawn/Dusk	15	9%	9	8%	6	12%	17	12%	3%
Dark	6	4%	4	4%	2	4%	4	3%	-1%
<b>Crash Severity</b>									
No injuries	96	59%	65	57%	31	63%	80	57%	-2%
Injury	65	40%	47	41%	18	37%	60	43%	3%
Fatal	0	0%	0	0%	0	0%	0	0%	0%
Unknown	2	1%	2	2%	0	0%	0	0%	-1%
<b>Crash Type</b>									
Left Turn	16	10%	11	10%	5	10%	18	13%	3%
Rear End	99	61%	78	68%	21	43%	83	59%	-2%
Angle	20	12%	15	13%	5	10%	16	11%	0%
Single Vehicle	0	0%	0	0%	0	0%	1	1%	1%
U-turn	1	1%	0	0%	1	2%	1	1%	0%
Right Turn	3	2%	3	3%	0	0%	2	2%	0%
Pedestrian	3	2%	2	2%	1	2%	3	2%	0%
Sideswipe	17	10%	4	4%	13	27%	10	7%	-3%
Backing	2	1%	1	1%	1	2%	0	0%	-1%
Other	0	0%	0	0%	0	0%	5	4%	4%
Head-On	2	1%	0	0%	2	4%	1	1%	-1%

1. At least one of the vehicles indicated to have been in the reversible lane.

in the before period occurred in the reversible lane. The other two before period pedestrian crashes occurred at the same time and place, when a pedestrian attempting to cross Grant Road was struck and another pedestrian, attempting to help the first, ran into the street and was also struck. In the after period, two pedestrians were struck while crossing Grant Road in a crosswalk, with one of these two crashes being a “multiple threat” crash. A multiple threat crash occurs when a vehicle in one lane yields to the pedestrian in the crosswalk, but a second vehicle in an adjacent lane does not yield and strikes the pedestrian as the pedestrian steps out from in front of the stopped vehicle. One pedestrian in the after period was struck while crossing mid-block in a multiple threat situation.



### 3.2.1 Crashes Involving Attempted Illegal Left-Turns

Left-turns were prohibited from the TWLTL on Grant Road during the operation of the reversible lane. This prohibition was indicated on the regulatory signs suspended over the TWLTL and posted at the roadside. Unfortunately, this did not completely eliminate the occurrence of left-turns from the reversible lane, resulting in some crashes. In 21 of the 163 (13 percent) before crashes the crash report indicated that the crash was caused by a motorist attempting to make an illegal left-turn from the reversible lane. This resulted in 17 rear-end collisions, one left-turn crash, one sideswipe, and two head-on collisions. **The elimination of this crash type in the after condition effectively accounts for a major portion of the total reduction in crashes from before to after.**

### 3.2.2 Before and After Crash Rate

The traffic volume data provided by the City was used to compute the crash rate for the study section of Grant Road for the before and after conditions. Only the traffic volumes during the hours of operation of the reversible lanes were used to compute the crash rates, along with the crash data for these four hours of the day before and after. The crash rates were computed as the number of crashes per million vehicle miles of travel along the study roadway (Crashes per MVM).

The traffic volume data were collected at three points along the corridor. In order to use these data, an assumption was required as to the length of the roadway to apply the traffic volume. It was assumed that the screenline count was applicable for a section of roadway extending half the distance to the adjacent screenline, and to the end of the study roadway from screenlines 1 and 3. The traffic volumes were assumed to apply for 254 days of the year (number of weekdays per year minus six holidays). The resulting vehicle miles of travel and the crash rates before and after are provided in Exhibit 8.

The crash rates during the hours of operation of the reversible lane indicate that the rate has decreased by approximately 10 percent, from 11.7 crashes per MVM to 10.5 crashes per MVM. This has been primarily due to a reduction in the number of sideswipe and rear-end collisions since termination of the reversible lane. However, by removing the 21 crashes where motorists were attempting illegal left-turns, the crash rate in the before period is reduced to 10.2 crashes per MVM, yielding a crash rate that is virtually the same as in the after period. **This fact suggests that the disregard for the posted reversible lane traffic regulation by motorists is a primary factor in the difference in the before and after crash rates.**

**Exhibit 8**  
**GRANT ROAD BEFORE AND AFTER CRASH RATES DURING THE HOURS OF**  
**OPERATION OF THE REVERSIBLE LANES <sup>1</sup>**  
**(Crashes per Million Vehicle Miles)**

	<u>Before<sup>2</sup></u>	<u>Before<sup>3</sup></u>	<u>After</u>
MVM	13.91	13.91	13.30
Crash Rate	11.7	10.2	10.5

1. 7:00 – 9:00 AM and 4:00 – 6:00 PM

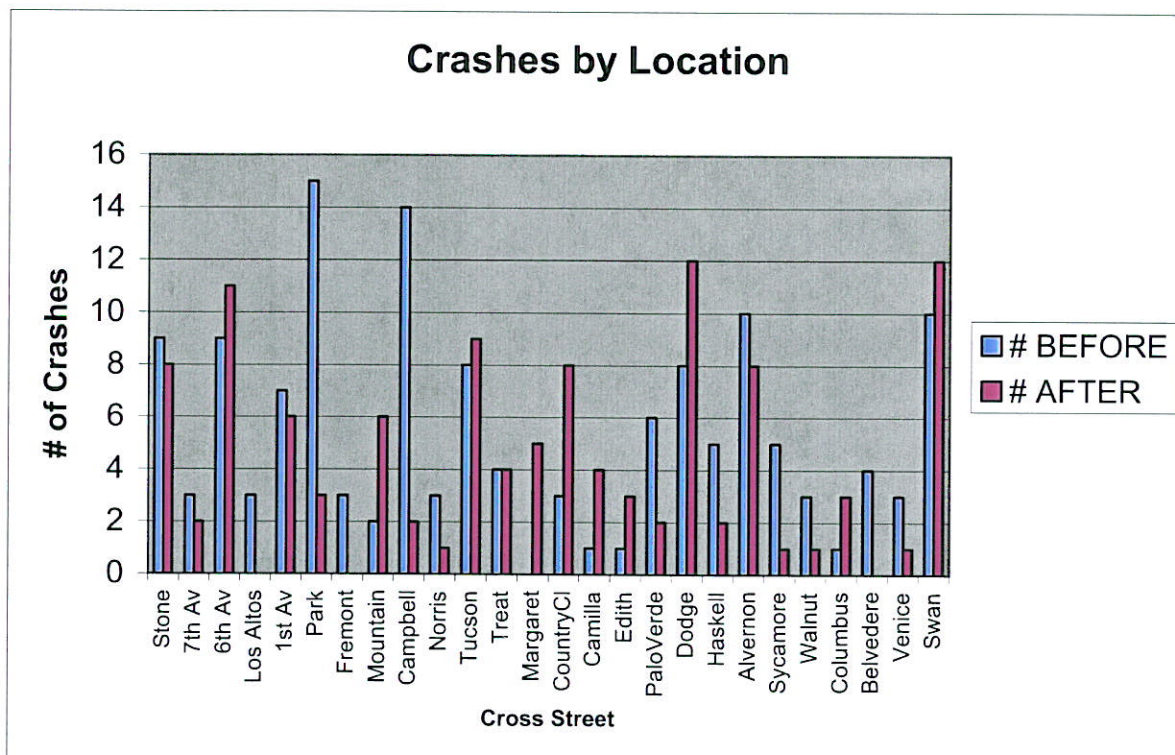
2. Includes all before period crashes

3. Excludes 21 crashes with motorists attempting illegal left-turns.

### 3.2.3 Crash Location

Exhibit 9 provides a chart indicating the number of crashes by location for all locations along Grant Road, from Stone Avenue to Swan Road, where at least three crashes occurred in either the before or after period. There has been a significant reduction in the number of crashes in the after condition at Park Avenue and Campbell Avenue. However, there has not been a reduction in crashes at all locations, with an increase in crashes having occurred at Mountain Avenue, Country Club, and Dodge Boulevard. In general, crashes increased from east of Campbell Avenue to Dodge Boulevard, along the center of the corridor. Therefore, the removal of the reversible lane has not universally improved traffic safety along Grant Road. Crash experience has significantly improved for at least two of the highest crash locations, but has become worse at a number of other locations.

**Exhibit 9**  
**GRANT ROAD CRASHES BY LOCATION BEFORE AND**  
**AFTER REMOVAL OF REVERSIBLE LANE**





### 3.2.4 Crashes by Month

Exhibit 10 provides a summary of the number of crashes by month before and after. There are no specific trends in either the before or after data by month. It has often been suggested that during the winter months the reversible lane would pose more of a safety risk due to the influx of winter visitors, unfamiliar with the operation of the reversible lane. This hypothesis is not supported by the crash data provided in Exhibit 10 or Exhibit 11. Exhibit 11 indicates the number of crashes per month for only those crashes occurring in the reversible lane. May, July, and August were the highest reversible lane crash months in the before condition. In the after condition, August, January, and April showed an increase in the number of crashes, while crashes declined in most other months.

### 3.3 CONCLUSIONS FROM THE CRASH ANALYSIS

The analysis of the crash data before and after the removal of the Grant Road reversible lane indicates the following:

1. Twenty-one (21) of the 49 crashes (43 percent) involving a vehicle in the reversible lane resulted from a motorist attempting to make an illegal left-turn from Grant Road during the operation of the reversible lane. This resulted in 17 rear-end crashes, which make up 35 percent of the crashes involving a vehicle in the reversible lane.
2. The number of crashes and the crash rate have declined slightly since the reversible lane was discontinued. Crashes declined from 163 to 140 (14 percent), and the crash rate declined from 11.7 to 10.5 crashes per million vehicle miles of travel (10 percent). **However, the before and after crash rates would have been the same if motorists had not disregarded the left-turn prohibition during the operation of the reversible lane.**
3. The number and proportion of sideswipe crashes declined in the after period. Crashes declined from 17 to 10, and the proportion of this crash type declined from 10 to 7 percent of total crashes.
4. Rear-end crashes have declined in both number and proportion. The number of rear-end crashes declined from 99 to 83, and proportion declined from 61 to 59 percent of total crashes. **Seventeen (17) of the rear end crashes in the before period were a result of motorist disregard of the left-turn prohibition during the operation of the reversible lane.**
5. The reduction in crashes for sideswipe and rear-end crash types makes up the majority of the reduction in the crash history from before to after. **The reduction in rear end crashes is directly related to motorist disregard of the left-turn prohibition in the before period, which resulted in 17 rear-end crashes in the before period.**



6. The two head-on crashes in the before period were a result of motorist disregard for the left-turn prohibition during the operation of the reversible lane.
7. The number and proportion of left-turn crashes in the after period have increased, which is not an unexpected result. The number of left-turn crashes increased from 16 to 18, and the proportion increased from 10 to 13 percent of total crashes.
8. The reduction in crashes in the after period is not universal for all locations:
  - a. Certain intersections along Grant Road, such as Park Avenue and Campbell Avenue, have seen a significant reduction in crashes since the removal of the reversible lane. In fact, the reduction at these two locations makes up a large proportion of the overall reduction in crashes.
  - b. Other intersections, such as Dodge Boulevard and Country Club, have seen crashes increase.
  - c. Crashes tended to increase in the after period in the center section of the reversible lane application and decrease at each end of the application.
9. The crash data does not indicate an increase in the number of crashes, or an increase in the number of crashes in the reversible lane, during the winter months when there is an increase in motorists unfamiliar with the operation of the reversible lane.
10. There were three pedestrian crashes in both the before and after periods. One of the pedestrian crashes in the before period occurred in the reversible lane. The other two before period pedestrian crashes occurred at the same time and place, when a pedestrian attempting to cross Grant Road was struck and another pedestrian, attempting to help the first, ran into to street and was also struck. In the after period, two pedestrians were struck while crossing Grant Road in a crosswalk, with one of these two crashes being a "multiple threat" crash. A multiple threat crash occurs when a vehicle in one lane yields to the pedestrian in the crosswalk, but a second vehicle in an adjacent lane does not yield and strikes the pedestrian as the pedestrian steps out from in front of the stopped vehicle. One pedestrian in the after period was struck while crossing mid-block in a multiple threat situation.
11. There were no fatal crashes in either the before or after periods.
12. The crash data do not suggest a change in crash severity after termination of the reversible lane.

## **4. UPDATE OF THE BROADWAY BOULEVARD REVERSIBLE LANE ANALYSIS**

### **4.1 INTRODUCTION AND PURPOSE**

In 2004 an analysis was conducted of the impacts of discontinuing the operation of the reversible lane on Broadway Boulevard between Euclid Avenue and Country Club Road (*Crash Analysis of Reversible Lane Removal on Broadway Boulevard and 6<sup>th</sup> Street*, April 2004). This earlier study compared three years of crash data before and after the removal of the reversible lane.

The purpose of this analysis is to update the prior Broadway Boulevard study by including an additional year of crash data after the removal of the reversible lane. This analysis also expanded the scope of the evaluation slightly in an effort to provide additional insight into the overall safety of the reversible lane operation and the impacts of the removal of this congestion management technique.

### **4.2 STUDY METHODOLOGY**

The methodology of this study is virtually identical to that described in Chapter 3 of this document for the analysis of Grant Road and that used in the previous before and after study of Broadway Boulevard (2004). Three years of crash history with the operation of the reversible lane (2/18/1998 through 2/18/2001) and three years of data for the after condition (2/21/2001 through 2/19/2004) were compared in the previous study. This analysis includes an additional year of data for the after period (6/22/2004 through 6/17/2005). **Therefore, the before study period is three years and the after study period is four years long.** The reversible lane operation on Broadway Boulevard was from 7:00 – 9:00 AM in the morning and from 4:00 – 6:00 PM in the afternoon, Monday through Friday. The prior study of Broadway Boulevard crash history did not include information in the data indicating whether a crash occurred as a result of a motorist attempting an illegal left-turn during the operation of the reversible lane. The addition of these data to the analysis was beyond the scope of this study.

### **4.3 SUMMARY OF BEFORE AND AFTER CRASH HISTORY**

Exhibit 11 contains an overall summary of the before and after crash history. Crash statistics are presented in total numbers and the **number of crashes per year due to the different durations of the before and after periods.**

There were 139 crashes (46.33 per year) in the before period with the reversible lane in operation, and 173 in the after period (43.25 per year) without the reversible lane. These data represent a 6.7 percent decline in the number of crashes per year in the after period, indicating a slight improvement in safety. Thirty-five (25 percent) of the total before period crashes involved at least one vehicle using the reversible lane. There were no fatal crashes in either the before or after periods.

Rear-end collisions make up the largest proportion of crashes by crash type in both the before and after conditions, with 53 percent before and 67 percent after. The proportion of rear-end collisions increased significantly in the after period. This result is opposite of the result for Grant Road, where rear-end collisions declined in the after period. Rear-end collisions are not



over represented in the crashes involving vehicles in the reversible lane, representing only 29 percent of these crashes. Unfortunately, the previous study of Broadway Boulevard did not indicate whether crashes in the before period were a result of motorists attempting to make a left-turn from the reversible lane, so an analysis of whether this contributed to the incidence of rear-end collisions cannot be made.

Sideswipe is the crash type with the second highest number of crashes in the before condition, accounting for 19 percent of the total crashes. The proportion of this crash type declined from 19 percent before to 5 percent after.

The proportion of left-turn crashes increased in the after period, from 4 percent of the total crashes to 10 percent of the total. This is not an unexpected result as left-turns were prohibited from Broadway Boulevard during the operation of the reversible lane.

Angle crashes declined from 5.7 per year before to 3.5 per year after. The proportion of this crash type also declined in the after period.

The data in Exhibit 11 suggest that two of the crash types are over represented in the crashes that occurred in the reversible lane: sideswipe crashes and left-turn crashes. The sideswipe crash type had the highest number of crashes with at least one vehicle in the reversible lane, with 13 of the 26 (50 percent) before condition crashes of this type occurring in the reversible lane. The occurrence of the sideswipe crash type also declined significantly in the after period.

The over representation of the left-turn crash type in the reversible lane indicates that the occurrence of illegal left-turns from Broadway Boulevard may have been a problem. However, this cannot be confirmed because the data from the previous study did not indicate whether a motorist was attempting to make an illegal left-turn from the reversible lane, and the addition of these data was beyond the scope of this study.

Exhibit 12 provides the number of crashes per year by intersection location along Broadway Boulevard. The number of crashes per year decreased at 50 percent of the 22 locations, and increased at 50 percent of the locations in the after period. The three locations with the highest number of crashes per year in the before and after period are Campbell Avenue, Plumer Avenue, and Tucson Boulevard. Crashes per year declined at Campbell Avenue in the after period, but increased at Plumer Avenue and Tucson Boulevard.

At the request of the City staff, the crash history at Plumer Avenue was investigated to identify how many of these crashes were related to congestion downstream from the intersection, even though the crashes were indicated to have occurred at Plumer Avenue. Five (5) of 21 before period crashes involved eastbound vehicles that were east of the Plumer Avenue intersection and were stopped for downstream congestion when a rear-end collision occurred. This same crash type occurred in 13 of 30 crashes in the after period at Plumer Avenue. This suggests that the increase in congestion downstream from Plumer Avenue in the after period has been a significant factor in the increase in the number of crashes near Plumer Avenue. This type of crash is not related to the intersection design or traffic control at Plumer Avenue, but is a direct result of congestion downstream from Plumer Avenue and driver inattention.



There were two pedestrian crashes along Broadway Boulevard in the before period. One of these crashes occurred at Plumer Avenue and the second occurred near South Kino Parkway. In the crash near Plumer Avenue, the pedestrian was crossing Plumer when struck by a vehicle making a right-turn from Broadway Boulevard to Plumer Avenue. In the pedestrian crash near South Kino Parkway, the pedestrian was crossing Broadway Boulevard mid-block (not in a crosswalk) and was struck while in the reversible lane.

#### 4.4 CONCLUSIONS

The comparison of the before and after crash characteristics along Broadway Boulevard indicates the following:

1. The number of crashes per year declined by 6.7 percent in the after period.
2. Rear-end collisions make of the largest proportion of crashes by crash type in both the before and after conditions, with 53 percent before and 67 percent after, and the proportion of rear-end collisions increased significantly in the after period.
3. Rear-end collisions are not over represented in the crashes involving vehicles in the reversible lane, representing only 29 percent of these crashes.
4. Sideswipe crashes accounted for 19 percent of the total crashes in the before period and only 5 percent in the after period.
5. Sideswipe crashes are over represented in the crashes involving a vehicle in the reversible lane, with 50 percent of sideswipe crashes having at least one vehicle in the reversible lane.
6. Left-turn crashes increased from 2.0 per year before to 4.5 per year after. This is not unexpected due to the elimination of the left-turn prohibition on Broadway Boulevard with the removal of the reversible lane.
7. No fatal accidents occurred in the before or after periods.
8. There was a slight increase in the proportion of injury accidents in the after period (45 percent) in comparison to the before period (40 percent). This is consistent with the increase in left-turn accidents in the after period, which tend to result in more injuries.
9. Crashes per year declined at half of the intersection crash locations in the after period and increased at the other half of the locations.
10. The locations with the highest number of crashes per year in the before and after period were Campbell Avenue, Plumer Avenue, and Tucson Boulevard.
11. Crashes per year declined at Campbell Avenue in the after period, but increased at Plumer Avenue and Tucson Boulevard. The increase in the number of crashes per year at Plumer Avenue is a result of the increase in congestion related rear-end collisions eastbound and downstream from the Plumer Avenue intersection. This type of crash is not related to the intersection design or traffic control at Plumer Avenue, but is a direct result of congestion downstream from Plumer Avenue and driver inattention.



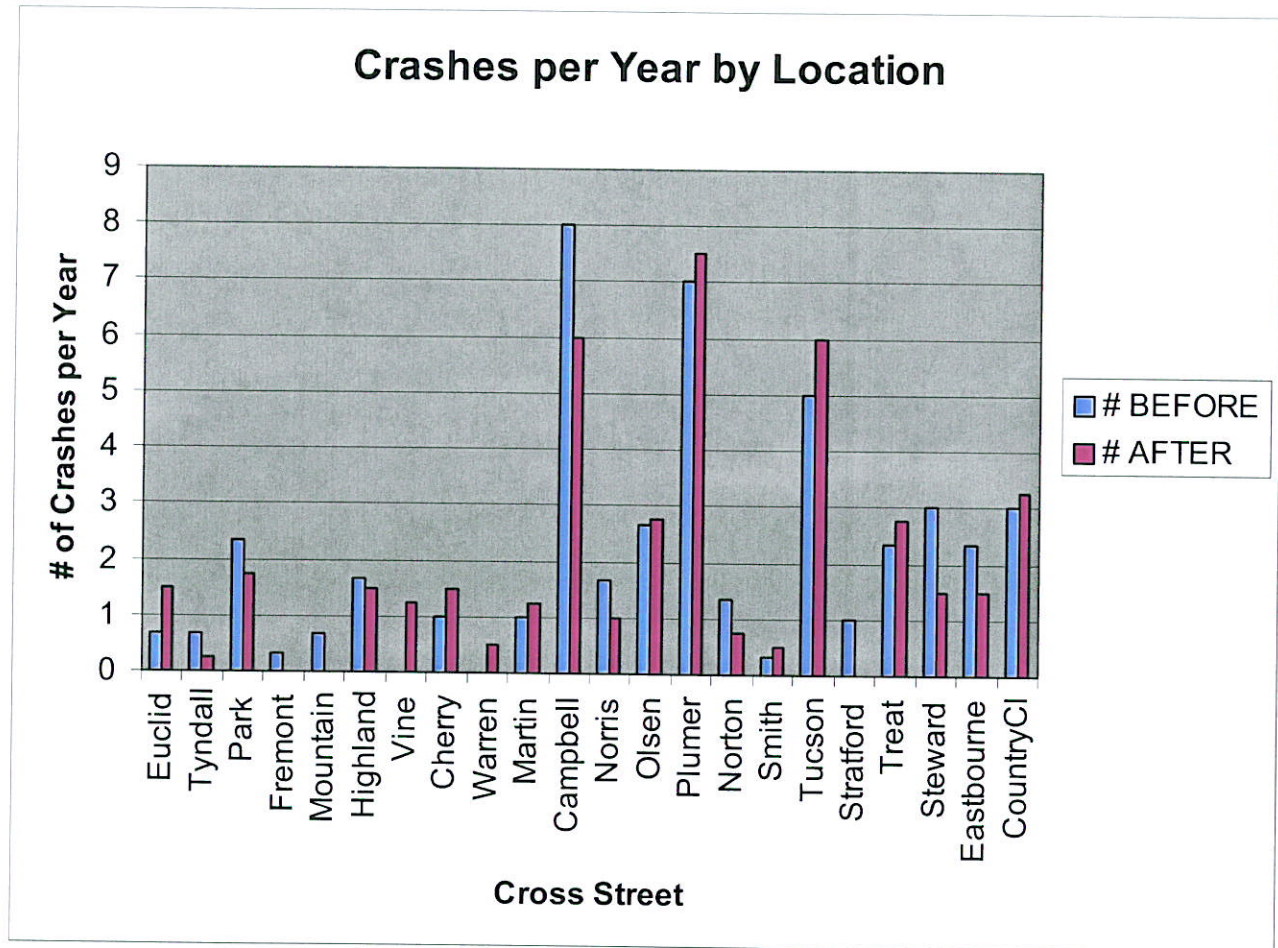
**Exhibit 12**  
**SUMMARY OF BROADWAY BOULEVARD CRASH DATA**

Crash Data Before Reversible Lane Removed (2/18/98 - 2/18/01)

			Before Crashes In Other Lanes		Before Crashes In Reversible Lane <sup>1</sup>		Crash Data After Reversible Lane Removed (2/21/01 - 2/19/04 and 6/22/04 - 6/17/05)		
	Before Number of Crashes (per year)	Percent total Before Crashes	Number of Crashes (per year)	Percent Other Lanes Crashes	Number of Crashes (per year)	Percent Rvs. Ln. Crashes	After Number of Crashes (per year)	Percent Total After Crashes	Difference in Before and After Percent
<b>Total Crashes</b>	139 (46.3)		104 (34.7)		35 (11.7)		173 (43.25)		
In Other Lanes	104 (34.7)	75%							
In Reversible Ln <sup>1</sup>	35 (11.7)	25%							
<b>Time of Day</b>									
Daylight	125 (41.7)	90%	93 (31.0)	89%	32 (10.7)	91%	164 (41.0)	95%	5%
Dawn/Dusk	10 (3.3)	7%	7 (2.3)	7%	3 (1.0)	9%	18 (4.5)	10%	3%
Dark	4 (1.3)	3%	4 (1.3)	4%	0 (0)	0%	1 (0.25)	1%	-2%
<b>Crash Severity</b>									
No injuries	81 (27.0)	58%	62 (20.7)	60%	19 (6.3)	54%	87 (21.8)	50%	-8%
Injury	55 (18.3)	40%	40 (13.3)	38%	15 (5.0)	43%	77 (19.3)	45%	5%
Fatal	0 (0)	0%	0 (0)	0%	0 (0)	0%	0 (0)	0%	0%
Unknown	3 (1.0)	2%	2 (0.7)	2%	1 (0.7)	3%	9 (2.3)	5%	3%
<b>Crash Type</b>									
Left Turn	6 (2.0)	4%	2 (0.7)	2%	4 (1.3)	11%	18 (4.5)	10%	6%
Rear End	74 (24.7)	53%	64 (21.3)	62%	10 (3.3)	29%	116 (29.0)	67%	14%
Angle	17 (5.7)	12%	13 (4.3)	13%	4 (1.3)	11%	14 (3.5)	8%	-4%
Single Vehicle	4 (1.3)	3%	4 (1.3)	4%	0 (0)	0%	4 (1.0)	2%	-1%
U-turn	0 (0)	0%	0 (0)	0%	0 (0)	0%	2 (0.5)	1%	1%
Right Turn	6 (2.0)	4%	6 (2.0)	6%	0 (0)	0%	4 (1.0)	2%	-2%
Pedestrian	2 (0.7)	1%	1 (0.7)	1%	1 (0.3)	3%	2 (0.5)	1%	0%
Sideswipe	26 (8.7)	19%	13 (4.3)	13%	13 (4.3)	37%	8 (2.0)	5%	-14%
Backing	1 (0.3)	1%	0 (0)	0%	1 (0.3)	3%	2 (0.5)	1%	0%
Other	2 (0.7)	1%	1 (0.7)	1%	1 (0.3)	3%	2 (0.5)	1%	0%
Head-On	1 (0.3)	1%	0 (0)	0%	1 (0.3)	3%	1 (0.25)	1%	0%

1. At least one of the vehicles indicated to have been in the reversible lane.

**Exhibit 13**  
**BROADWAY BOULEVARD CRASHES PER YEAR BY LOCATION**





## **APPENDIX**

**Grant Road Reversible Lane Study Traffic Analysis**  
Daily Traffic Volume Summary

Eastbound Before										Westbound Before										2-Way Total Before											
1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion	1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion	1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion	1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion
Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals	
19591	264	15602	20.0	13756	18.5			13454	19.9	16937	21.5	13467	18.6			33045	23.3	32538	20.8	27223	18.6			33045	23.3	32538	20.8	27223	18.6		
4865	63	6306	8.1	3607	4.9			5072	7.5	5777	7.3	3529	4.9			9737	6.9	12083	7.7	7136	4.9			9737	6.9	12083	7.7	7136	4.9		
22147	299	21464	27.6	23037	31.0			22479	33.2	21955	27.9	21919	30.3			44626	31.5	43459	27.8	44956	30.7			44626	31.5	43459	27.8	44956	30.7		
	0.0	2002	2.6	7858	10.6			Pima/Elm	0.0	2392	3.0	8112	11.2				0.0	4393	2.8	15970	10.9				0.0	4393	2.8	15970	10.9		
27680	37.4	32483	41.7	26003	35.0			Speedway	26766	39.5	31634	40.2	25247	35.0			54456	38.4	64117	40.9	51350	35.0			54456	38.4	64117	40.9	51350	35.0	
74092	100	77856	100	74259	100			Totals	67770	100	78733	100	72374	100			141862	100	156589	100	146633	100			141862	100	156589	100	146633	100	
Eastbound After										Westbound After										2-Way Total After											
1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion	1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion	1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion	1st	Screenline	Campbell-Tucson	Screenline	Proportion	Avernon-Columbus	Screenline	Proportion
Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals	
8863	14.0	14876	21.5	13190	19.3			14339	22.9	15789	22.6	13389	19.4			23202	18.4	30665	22.0	26579	19.4			23202	18.4	30665	22.0	26579	19.4		
4499	7.1	5780	8.4	3593	5.3			4605	7.4	5519	7.9	3604	5.2			9104	7.2	11299	8.1	7197	5.2			9104	7.2	11299	8.1	7197	5.2		
23924	37.8	19387	28.0	20690	30.3			20283	32.4	19222	27.5	21017	30.5			44207	35.1	38609	27.8	41707	30.4			44207	35.1	38609	27.8	41707	30.4		
	0.0	1830	2.6	7558	11.1			Pima/Elm	0.0	2015	2.9	7688	11.2				0.0	3845	2.8	15246	11.1				0.0	3845	2.8	15246	11.1		
26037	41.1	27328	39.5	23196	34.0			Speedway	23368	37.3	27372	39.1	23224	33.7			49405	39.2	54700	39.3	46420	33.8			49405	39.2	54700	39.3	46420	33.8	
63323	100	69201	100	68227	100			Totals	62595	100	69917	100	68922	100			125918	100	139118	100	137149	100			125918	100	139118	100	137149	100	
Eastbound Difference										Westbound Difference										2-Way Total Difference											
1st	Proportion	Campbell-Tucson	Proportion	Difference	Avernon-Columbus	Proportion	Difference	1st	Proportion	Campbell-Tucson	Proportion	Difference	Avernon-Columbus	Proportion	Difference	1st	Proportion	Campbell-Tucson	Proportion	Difference	Avernon-Columbus	Proportion	Difference	1st	Proportion	Campbell-Tucson	Proportion	Difference	Avernon-Columbus	Proportion	Difference
Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals		Street Name	Fort Lowell	Glenn	Grant	Pima/Elm	Speedway	Totals	
-10728	-12	-726	1	-566	1			886	3	-1148	1	-78	1			-9843	-5	-1873	1	-644	1			-9843	-5	-1873	1	-644	1		
-166	1	-526	0	-14	0			-467	0	-258	1	75	0			-633	0	-784	0	62	0			-633	0	-784	0	62	0		
1777	8	-2077	0	-2347	-1			-2196	-1	-2773	0	-902	0			-419	4	-4850	0	-3249	0			-419	4	-4850	0	-3249	0		
	0	0	-172	-300	0			Pima/Elm	0	-377	0	-424	0			0	0	-548	0	-724	0			0	0	-548	0	-724	0		
-1853	4	-5155	-2	-2807	-1			Speedway	-3398	-2	-4262	-1	-2123	-1			-5051	1	-9417	-2	-4930	-1			-5051	1	-9417	-2	-4930	-1	
-10769	0	-8655	0	-6032	0			Totals	-5175	0	-8816	0	-3452	0			-15944	0	-17471	0	-9484	0			-15944	0	-17471	0	-9484	0	



Grant Road Reversible Lane Study Traffic Analysis  
AM Peak-Period Traffic Volume Summary

Eastbound Before										Westbound Before										2-Way Total Before														
1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline					
Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion
Fort Lowell	2148	23.8	1883	23.6	1534	19.0	Fort Lowell	2119	25.1	2271	20.2	2101	19.9	Fort Lowell	4267	24.4	4154	21.6	3634	19.5	Fort Lowell	4267	24.4	4154	21.6	3634	19.5	Fort Lowell	4267	24.4	4154	21.6	3634	19.5
Glenn	689	7.6	668	8.4	434	5.4	Glenn	513	6.1	683	6.1	574	5.4	Glenn	1201	6.9	1351	7.0	1008	5.4	Glenn	1201	6.9	1351	7.0	1008	5.4	Glenn	1201	6.9	1351	7.0	1008	5.4
Grant	2852	31.6	2259	28.3	2524	31.3	Grant	2984	35.3	3313	29.5	2990	28.4	Grant	5835	33.4	5572	29.0	5514	29.6	Grant	5835	33.4	5572	29.0	5514	29.6	Grant	5835	33.4	5572	29.0	5514	29.6
Pima/Elm	0	0	162	2.0	927	11.5	Pima/Elm	0	0	486	4.3	1325	12.6	Pima/Elm	0	0	647	3.4	2252	12.1	Pima/Elm	0	0	647	3.4	2252	12.1	Pima/Elm	0	0	647	3.4	2252	12.1
Speedway	3345	37.0	3001	37.6	2642	32.8	Speedway	2829	33.5	4485	39.9	3548	33.7	Speedway	6174	35.3	7486	39.0	6190	33.3	Speedway	6174	35.3	7486	39.0	6190	33.3	Speedway	6174	35.3	7486	39.0	6190	33.3
Totals	9033	100	7973	100	8060	100	Totals	8444	100	11236	100	10536	100	Totals	17476	100	19209	100	18596	100	Totals	17476	100	19209	100	18596	100	Totals	17476	100	19209	100	18596	100

Eastbound After										Westbound After										2-Way Total After														
1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline					
Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion
Fort Lowell	1014	12.9	1776	21.7	1479	19.5	Fort Lowell	1748	23.5	2082	20.2	2176	22.1	Fort Lowell	2762	18.1	3858	20.9	3655	21.0	Fort Lowell	2762	18.1	3858	20.9	3655	21.0	Fort Lowell	2762	18.1	3858	20.9	3655	21.0
Glenn	517	6.6	603	7.4	447	5.9	Glenn	625	8.4	743	7.2	589	6.0	Glenn	1142	7.5	1346	7.3	1036	5.9	Glenn	1142	7.5	1346	7.3	1036	5.9	Glenn	1142	7.5	1346	7.3	1036	5.9
Grant	3283	41.9	2852	34.9	2299	30.4	Grant	2398	32.2	2984	29.0	2505	25.4	Grant	5681	37.1	5635	31.6	4804	27.6	Grant	5681	37.1	5635	31.6	4804	27.6	Grant	5681	37.1	5635	31.6	4804	27.6
Pima/Elm	0	0	161	2.0	905	12.0	Pima/Elm	0	0	431	4.2	1221	12.4	Pima/Elm	0	0	592	3.2	2126	12.2	Pima/Elm	0	0	592	3.2	2126	12.2	Pima/Elm	0	0	592	3.2	2126	12.2
Speedway	3027	38.6	2789	34.1	2440	32.2	Speedway	2681	36.0	4064	39.4	3364	34.1	Speedway	5708	37.3	6853	37.1	5804	33.3	Speedway	5708	37.3	6853	37.1	5804	33.3	Speedway	5708	37.3	6853	37.1	5804	33.3
Totals	7841	100	8181	100	7570	100	Totals	7452	100	10304	100	9855	100	Totals	15293	100	18484	100	17425	100	Totals	15293	100	18484	100	17425	100	Totals	15293	100	18484	100	17425	100

Eastbound Difference										Westbound Difference										2-Way Total Difference																							
1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion								
Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference		
Fort Lowell	-1134	-11	-107	-2	-55	1	Fort Lowell	-371	-2	-189	0	76	2	Fort Lowell	-1505	-6	-236	-1	21	Fort Lowell	-1505	-6	-236	-1	21	Fort Lowell	-1505	-6	-236	-1	21	Fort Lowell	-1505	-6	-236	-1	21	Fort Lowell	-1505	-6	-236	-1	21
Glenn	-172	-1	-65	-1	13	1	Glenn	113	2	61	1	16	1	Glenn	-59	1	-5	0	29	Glenn	-59	1	-5	0	29	Glenn	-59	1	-5	0	29	Glenn	-59	1	-5	0	29	Glenn	-59	1	-5	0	29
Grant	432	10	593	7	-225	-1	Grant	-586	-3	-329	-1	-485	-3	Grant	-154	4	264	3	-710	Grant	-154	4	264	3	-710	Grant	-154	4	264	3	-710	Grant	-154	4	264	3	-710	Grant	-154	4	264	3	-710
Pima/Elm	0	0	-1	0	-22	0	Pima/Elm	0	0	-55	0	-104	0	Pima/Elm	0	0	-55	0	-126	Pima/Elm	0	0	-55	0	-126	Pima/Elm	0	0	-55	0	-126	Pima/Elm	0	0	-55	0	-126	Pima/Elm	0	0	-55	0	-126
Speedway	-318	2	-212	-4	-202	-1	Speedway	-148	2	-421	0	-184	0	Speedway	-466	2	-633	-2	-386	Speedway	-466	2	-633	-2	-386	Speedway	-466	2	-633	-2	-386	Speedway	-466	2	-633	-2	-386	Speedway	-466	2	-633	-2	-386
Totals	-1192	0	208	0	-490	0	Totals	-992	0	-933	0	-681	0	Totals	-2183	0	-725	0	-1171	Totals	-2183	0	-725	0	-1171	Totals	-2183	0	-725	0	-1171	Totals	-2183	0	-725	0	-1171	Totals	-2183	0	-725	0	-1171

Grant Road Reversible Lane Study Traffic Analysis  
PM Peak-Period Traffic Volume Summary

Eastbound Before						Westbound Before						2-Way Total Before								
1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline			
Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion
Fort Lowell	3462	31.9	2406	18.9	2384	19.2	Fort Lowell	1888	19.2	2421	23.3	1905	19.6	Fort Lowell	5350	25.9	4827	20.9	4289	19.4
Glenn	854	7.9	1127	8.8	704	5.7	Glenn	994	10.1	1006	9.7	593	6.1	Glenn	1848	8.9	2132	9.2	1297	5.9
Grant	3143	28.9	3432	26.9	3886	31.3	Grant	3184	32.4	2622	25.2	2543	26.1	Grant	6327	30.6	6054	26.2	6429	29.0
Pima/Elm	0.0	482	3.8	1520	12.3		Pima/Elm	0.0	368	3.5	1343	13.8		Pima/Elm	0.0	850	3.7	2863	12.9	
Speedway	3400	31.3	5298	41.6	3911	31.5	Speedway	3766	38.3	3983	38.3	3355	34.5	Speedway	7166	34.6	9281	40.1	7266	32.8
Totals	10859	100	12744	100	12404	100	Totals	9832	100	10399	100	9739	100	Totals	20691	100	23143	100	22143	100

Eastbound After						Westbound After						2-Way Total After								
1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline	1st-	Screenline	Campbell-	Screenline	Alvernon-	Screenline			
Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion	Street Name	Mountain	Proportion	Tucson	Proportion	Columbus	Proportion
Fort Lowell	1465	16.3	2349	20.8	2375	21.5	Fort Lowell	2305	25.5	2267	22.8	1860	19.7	Fort Lowell	3770	20.9	4616	21.7	4235	20.7
Glenn	776	8.6	1043	9.2	718	6.5	Glenn	807	8.9	920	9.2	615	6.5	Glenn	1583	8.8	1963	9.2	1333	6.5
Grant	3240	36.1	3143	27.8	2924	26.4	Grant	2707	29.9	3184	32.0	2759	29.3	Grant	5947	33.0	6327	29.7	5683	27.7
Pima/Elm	0.0	441	3.9	1473	13.3		Pima/Elm	0.0	283	2.8	1185	12.6		Pima/Elm	0.0	724	3.4	2658	13.0	
Speedway	3493	38.9	4341	38.4	3573	32.3	Speedway	3227	35.7	3304	33.2	3013	31.9	Speedway	6720	37.3	7645	35.9	6586	32.1
Totals	8974	100	11317	100	11063	100	Totals	9046	100	9958	100	9432	100	Totals	18020	100	21275	100	20495	100

Eastbound Difference						Westbound Difference						2-Way Total Difference								
1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion	1st-	Proportion	Campbell-	Proportion	Alvernon-	Proportion			
Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference	Street Name	Mountain	Difference	Tucson	Difference	Columbus	Difference
Fort Lowell	-1997	-16	-57	2	-9	2	Fort Lowell	417	6	-154	-1	-45	0	Fort Lowell	-1580	-5	-211	1	-54	1
Glenn	-78	1	-84	0	15	1	Glenn	-187	-1	-86	0	22	0	Glenn	-265	0	-169	0	37	1
Grant	97	7	-289	1	-962	-5	Grant	-477	-2	563	7	217	3	Grant	-380	2	274	4	-746	-1
Pima/Elm	0	0	-41	0	-47	1	Pima/Elm	0	0	-85	-1	-158	-1	Pima/Elm	0	0	-126	0	-205	0
Speedway	93	8	-957	-3	-338	1	Speedway	-539	-3	-679	-5	-342	-3	Speedway	-446	3	-1636	-4	-680	-1
Totals	-1885	0	-1427	0	-1341	0	Totals	-786	0	-441	0	-307	0	Totals	-2671	0	-1868	0	-1648	0



# Grant Road Crash Data

## Before Crashes on Grant Rd.

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?	Comment
0306170686	6/17/2003	1713	Tues	1st Av	2	Left turn	3	Day	Y	Lt from thru lane
0306200300	6/20/2003	830	Fri	Martin	2	Rear end	1	Day	Y	Caused by illegal left turn
0306240202	6/24/2003	753	Tues	Venice	2	Rear end	1	Day		
0307020633	7/2/2003	1705	Wed	Park	2	Head on	2	Day	Y	Wrong way left turn
0307070655	7/7/2003	1601	Mon	Elaine	2	Rear end	3	Day		
0307080677	7/8/2003	1746	Tues	Stone	2	Sideswipe (same direction)	1	Day		
0307090615	7/9/2003	1701	Wed	6th Av	2	Rear end	2	Day		
0307100212	7/10/2003	735	Thurs	Stone	2	Rear end	1	Day		
0307110644	7/11/2003	1650	Fri	Sycamore	2	Rear end	2	Day		
0307110687	7/11/2003	1735	Fri	Plumer	2	Rear end	2	Day	Y	Attempting illegal left
0307140716	7/14/2003	1652	Mon	Stone	2	Left turn	1	Day		Turning from Stone
0307140734	7/14/2003	1715	Mon	Palo Verde	2	Rear end	2	Day	Y	Caused by illegal left turn
0307160587	7/16/2003	1604	Wed	Swan	2	Left turn	1	Day	Y	Pull out from private dr.
0307170253	7/17/2003	856	Thurs	Treat	2	Rear end	1	Day		
0307180591	7/18/2003	1609	Fri	Belvedere	2	Angle	1	Day		Attempting to cross st.
0307180607	7/18/2003	1618	Fri	Belvedere	2	Rear end	1	Day		
0307210622	7/21/2003	1605	Mon	Park	3	Rear end	1	Day		
0307280248	7/28/2003	839	Mon	Swan	2	Sideswipe (same direction)	1	Day	Y	Changing into rvs lane
0309290718	7/29/2003	1716	Tues	1st Av	2	Rear end	1	Dusk	Y	Attempting illegal left
0308010187	8/1/2003	756	Fri	Estrella	4	Rear end	1	Day		
0308010196	8/1/2003	812	Fri	Stone	2	Left turn	1	Day		Turning from Stone
0308010711	8/1/2003	1649	Fri	Sparkman	2	Sideswipe (same direction)	3	Day	Y	Changing into rvs lane
0308010762	8/1/2003	1729	Fri	Swan	2	Rear end	1	Day		
0308040704	8/4/2003	1717	Mon	Alvernon	2	Sideswipe (same direction)	1	Day	Y	Wrong direction in lane
0308060232	8/6/2003	858	Fri	Mountain	2	Angle	1	Day		Right turn angle
0308140212	8/14/2003	758	Thurs	Campbell	2	Rear end	1	Day		
0308150243	8/15/2003	758	Fri	Walnut	2	Angle	1	Day		
0308210676	8/21/2003	1628	Thurs	Stone	2	Left turn	1	Day		Made right from median lane
0308210713	8/21/2003	1700	Thurs	Treat	2	Pedestrian	3	Day	Y	Thru car ran red light
0308220264	8/22/2003	821	Fri	Sycamore	2	Rear end	1	Day	Y	
0308220754	8/22/2003	1606	Fri	1st Av	2	Rear end	2	Day		
0308250787	8/25/2003	1613	Mon	Park	3	Rear end	1	Day	Y	Caused by illegal left turn

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?	Comment
0308260242	8/26/2003	759	Tues	Park	2	Sideswipe (same direction)	1	Day	Y	Changing into rvs lane
0308270205	8/27/2003	708	Wed	Stone	2	Rear end	1	Day		
0308280294	8/28/2003	849	Thurs	Walnut	2	Angle	1	Day		Pull out from Walnut
0309020719	9/2/2003	1631	Tues	Dodge	2	Rear end	3	Day		
0309030722	9/3/2003	1606	Wed	Tucson	2	Angle	1	Day	Y	Attempting illegal left
0309040801	9/4/2003	1723	Thurs	Los Altos	4	Rear end	1	Day		
0309040828	9/4/2003	1748	Thurs	Campbell	2	Rear end	1	Day	Y	Failed to stop at signal
0309090664	9/9/2003	1600	Tues	Fair Oaks	2	Rear end	1	Day		
0309110699	9/11/2003	1609	Thurs	Cherry	3	Rear end	1	Day		
0309150191	9/15/2003	733	Mon	Olsen	3	Angle	4	Day		Trying to cross street
0309180826	9/18/2003	1719	Thurs	4th Av	3	Rear end	2	Day		
0309190704	9/19/2003	1604	Fri	Country Club	2	Rear end	4	Day		
0309190761	9/19/2003	1649	Fri	Campbell	2	Sideswipe (same direction)	1	Day	Y	Changing into rvs lane
0309130812	9/23/2003	1745	Tues	Venice	2	Rear end	2	Dusk		
0309250731	9/25/2003	1620	Thurs	4th Av	2	Left turn	2	Day		Turning from Grant
0310060841	10/6/2003	1628	Mon	Campbell	2	Rear end	2	Day		
0340070813	10/7/2003	1635	Thurs	Alvernon	4	Rear end	3	Dusk	Y	Pushed into lane
0310070854	10/7/2003	1714	Tues	Park	2	Angle	1	Day		Turning right from thru lane
0310080768	10/8/2003	1707	Wed	Tucson	4	Rear end	1	Day		
0310120633	10/10/2003	1600	Fri	1st Av	2	Sideswipe (same direction)	6	Day		
0310140190	10/14/2003	741	Tues	Park	4	Angle	2	Day		Ran red light
0310170324	10/17/2003	843	Fri	1st Av	3	Rear end	1	Day		
0310170726	10/17/2003	1613	Fri	Swan	2	Right turn	1	Day		
0310170672	10/17/2003	1734	Fri	Loretta	2	Rear end	1	Dusk		
0310200259	10/20/2003	858	Mon	Park	2	Left turn	2	Day		
0310270706	10/27/2003	1702	Mon	Los Altos	2	Rear end	1	Dusk	Y	Car stalled
0310310820	10/31/2003	1751	Fri	Norris	2	U-turn	3	Dark	Y	U-turn from thru lane
0311030835	11/3/2003	1713	Mon	Stone	2	Rear end	1	Dusk		
0311040185	11/4/2003	729	Tues	Mountain	2	Rear end	3	Day		
0311050693	11/5/2003	1623	Wed	Tucson	3	Rear end	2	Day		Caused by illegal left turn
0311060175	11/6/2003	729	Thurs	Palo Verde	2	Rear end	1	Day		
0217	11/10/2003	837	Mon	Haskell	2	Rear end	3	Day	Y	Attempting illegal left
0311100702	11/10/2003	1642	Mon	Alvernon	3	Rear end	1	Day		
0311120243	11/12/2003	825	Wed	Palo Verde	2	Rear end	2	Day		



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?	Comment
0311130251	11/13/2003	837	Thurs	Sycamore	2	Sideswipe (same direction)	1	Day	Y	Changing out of rvs lane
0311130708	11/13/2003	1617	Thurs	Alvernon	3	Rear end	1	Day		
0157	11/18/2003	756	Tues	Haskell	2	Sideswipe (opp direction)	1	Day	Y	Pull out from private dr.
0311240604	11/24/2003	1622	Mon	Palo Verde	2	Left turn	1	Day		
0311260792	11/26/2003	1736	Wed	Campbell	3	Rear end	1	Dusk	Y	Caused by illegal left turn
0312010718	12/1/2003	1721	Mon	Campbell	3	Rear end	2	Dusk		
0312030708	12/3/2003	1700	Wed	Country Club	2	Left turn	2	Day	Y	Attempting illegal left
0312040582	12/4/2003	1607	Thurs	Tucson	3	Rear end	1	Day		
0312050839	12/5/2003	1757	Fri	Fremont	2	Rear end	1	Dark		
0312050821	12/5/2003	1757	Fri	Fremont	2	Rear end	1	Dark	Y	Changing out of rvs lane
0312080216	12/8/2003	825	Mon	Campbell	2	Rear end	1	Day	Y	Caused by illegal left turn
0312080111	12/8/2003	1655	Mon	Sycamore	2	Left turn	1	Day	Y	Pull out from private dr.
0312080711	12/8/2003	1655	Mon	Sycamore	2	Left turn	1	Day		Turning from Sycamore
0312100628	12/10/2003	1624	Wed	Swan	2	Left turn	1	Day		Turning from Grant
0312150189	12/15/2003	809	Mon	Dodge	2	Angle	2	Day		Ran red light
0312160721	12/16/2003	1720	Tues	Dodge	2	Left turn	1	Dark		Turning from Grant
0312160771	12/16/2003	1800	Tues	7th Av	2	Rear end	1	Dark		
0312170681	12/17/2003	1715	Wed	Stone	2	Left turn	1	Day		Turning from Grant
0312170735	12/17/2003	1749	Wed	Alvernon	2	Rear end	1	Day		
0312220247	12/22/2003	858	Mon	Dodge	2	Angle	2	Day		Ran red light
0312290587	12/29/2003	1647	Mon	Park	3	Angle	3	Day		Ran red light
0401050684	1/5/2004	1636	Mon	Campbell	2	Angle	1	Day		Vehicle jitted out from lot
0401060635	1/6/2004	1709	Tues	Swan	2	Left turn	1	Day		Turned from Grant
0401120226	1/12/2004	853	Mon	Campbell	2	Rear end	3	Day	Y	Caused by illegal left turn
0401140759	1/14/2004	1756	Wed	6th Av	2	Rear end	1	Dark		
0401200723	1/20/2004	1746	Tues	Palo Verde	4	Angle	2	Dusk		Ran stop sign
0401220704	1/22/2004	1724	Thurs	Belvedere	3	Angle	3	Day		Attempting to cross st.
040123078	1/23/2004	1726	Fri	6th Av	2	Rear end	1	Day		
0401260163	1/26/2004	704	Mon	Swan	2	Rear end	1	Dawn		
0402030681	2/3/2004	1725	Tues	6th Av	3	Rear end	1	Dusk	Y	Failed to stop at signal
0402040643	2/4/2004	1642	Wed	Swan	2	Angle	1	Day		Pulling out of lot
0402040776	2/4/2004	1654	Wed	Camilla	2	Pedestrian	4	Day		
0402040660	2/4/2004	1654	Wed	Camilla	2	Pedestrian	4	Day		
0402060210	2/6/2004	858	Fri	Alvernon	2	Right turn	1	Day		

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?	Comment
0402060667	2/6/2004	1703	Fri	Los Altos	2	Sideswipe (same direction)	1	Day	Y	Changing into rvs lane
0402090203	2/9/2004	855	Mon	6th Av	2	Left turn	2	Day		Turned from Grant
0402090650	2/9/2004	1645	Mon	Madelyn	2	Rear end	3	Day		
0402110141	2/11/2004	702	Wed	Columbus	2	Rear end	1	Day		
0402170644	2/17/2004	1618	Tues	1st Av	3	Angle	1	Day	Y	Changing out of rvs lane
0402180208	2/18/2004	757	Wed	Wilson	3	Rear end	1	Day		
0402240172	2/24/2004	822	Tues	Palo Verde	2	Angle	2	Day	Y	Trying to cross street
0402240604	2/24/2004	1659	Tues	Park	3	Rear end	1	Day	Y	Attempting illegal left
0402260195	2/26/2004	737	Thurs	Wilson	3	Rear end	6	Day		
0402260206	2/26/2004	813	Thurs	Fair Oaks	3	Rear end	2	Day		
0402260734	2/26/2004	1725	Thurs	6th Av	2	Rear end	1	Day		
0403030202	3/3/2004	809	Wed	Tucson	2	Rear end	3	Day		
0403030241	3/3/2004	851	Wed	Venice	2	Rear end	1	Day		
0403090149	3/9/2004	713	Tues	7th Av	2	Rear end	4	Day		
0403100736	3/10/2004	1723	Wed	Country Club	2	Rear end	1	Day		
0403120771	3/12/2004	1752	Fri	Campbell	2	Rear end	3	Dusk		
0403160673	3/16/2004	1724	Tues	Fremont	2	Angle	3	Day	Y	Attempting to cross st.
0403180716	3/18/2004	1653	Thurs	Park	2	Rear end	1	Dusk		
0403190764	3/19/2004	1726	Fri	Treat	2	Sideswipe (same direction)	3	Day		
0403190784	3/19/2004	1742	Fri	1st Av	2	Rear end	1	Dusk	Y	Attempting illegal left
0403190766	3/19/2004	1727	Fri	Treat	2	Rear end	2	Day		
0403220660	3/22/2004	1630	Mon	Swan	2	Rear end	1	Day		
0403220741	3/22/2004	1721	Mon	Park	3	Sideswipe (opp direction)	4	Day	Y	Swerved into opp direction
0403260722	3/26/2004	1623	Fri	Edith	2	Backing	1	Day		
0403290663	3/29/2004	1618	Mon	Campbell	3	Rear end	1	Day		
0403300153	3/30/2004	727	Tues	Dodge	3	Rear end	3	Day		
0404020652	4/2/2004	1653	Fri	Park	2	Rear end	1	Day	Y	Failed to stop
0404140658	4/14/2004	1627	Wed	Elaine	2	Rear end	1	Day		
0404210660	4/21/2004	1704	Wed	6th Av	2	Rear end	2	Day		
0404220721	4/22/2004	1751	Thurs	Haskell	2	Rear end	1	Day		
0404230700	4/23/2004	1616	Fri	Park	2	Rear end	2	Day	Y	Attempting illegal left
0404300189	4/30/2004	704	Fri	Dodge	2	Sideswipe (same direction)	1	Day	Y	Attempting illegal left
0405030202	5/3/2004	818	Mon	Tucson	3	Rear end	1	Day	Y	Failed to stop at signal
0405040193	5/4/2004	807	Tues	Haskell	2	Backing	2	Day	Y	Backed into left turn



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?	Comment
0405040637	5/4/2004	1600	Tues	Dodge	2	Rear end	1	Day		
0405040670	5/4/2004	1633	Tues	Alvernon	2	Rear end	1	Day		
0405060230	5/6/2004	755	Thurs	Stone	3	Rear end	3	Day		
0405060276	5/6/2004	858	Thurs	Tucson	3	Rear end	2	Day		
0405110783	5/11/2004	1737	Tues	7th Av	2	Sideswipe (same direction)	1	Day	Y	Changing into rvs lane
0405120170	5/12/2004	816	Wed	Warren	5	Rear end	3	Day	Y	Attempting illegal left
0405130783	5/13/2004	1729	Thurs	Park	2	Angle	1	Day		Ran red light
0405130838	5/13/2004	1739	Thurs	Highland	2	Rear end	1	Day		
0405140220	5/14/2004	828	Fri	Santa Rita	2	Sideswipe (same direction)	1	Day	Y	Changing out of rvs lane
0405120695	5/14/2004	1624	Fri	Alvernon	3	Rear end	1	Day		
0405170743	5/17/2004	1734	Mon	Goyette	2	Head on	1	Day	Y	Wrong way left turn
0405190688	5/19/2004	1645	Wed	Alvernon	2	Rear end	2	Day		
0405240220	5/24/2004	809	Mon	Dodge	2	Rear end	1	Day	Y	Caused by illegal left turn
0405270659	5/27/2004	1613	Thurs	6th Av	3	Rear end	4	Day		
0406010244	6/1/2004	847	Tues	Campbell	4	Angle	2	Day	Y	Ran red light
0406010641	6/1/2004	1619	Tues	Norris	3	Rear end	3	Day		
0406010760	6/1/2004	1715	Tues	Alvernon	2	Rear end	2	Day		
0406010777	6/1/2004	1730	Tues	6th Av	2	Rear end	3	Day		
0406040677	6/4/2004	1712	Fri	Norris	3	Right turn	3	Day		
0406080667	6/8/2004	1651	Tues	Campbell	2	Rear end	2	Day		
0406080680	6/8/2004	1705	Tues	Walnut	3	Rear end	1	Day		
0406100679	6/10/2004	1709	Thurs	Sparkman	2	Rear end	2	Day		
0406110176	6/11/2004	704	Fri	Campbell	2	Rear end	3	Day		
0406110544	6/11/2004	1604	Fri	Richey	2	Sideswipe (same direction)	1	Day	Y	Caused by illegal left turn
0406030589	6/13/2004	1615	Thurs	Swan	2	Sideswipe (same direction)	2	Day		Changing into rvs lane
0406150584	6/15/2004	1617	Tues	Park	2	Rear end	1	Day		
0406170598	6/17/2004	1615	Thurs	Forgeus	2	Rear end	3	Day		
0406180242	6/18/2004	848	Fri	Tucson	2	Rear end	1	Day		
0406180645	6/18/2004	1632	Fri	Haskell	3	Rear end	1	Day		

Injury Code:

1: No Injury

2: Possible Injury

3: Non Incapacitating Injury

4: Incapacitating Injury

5: Fatal Injury

6: Not Reported/Unknown

# After Crashes on Grant Rd.

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	Comment
0406220253	6/22/2004	848	Tues	Alvernon	2	Sideswipe (same direction)	1	Day	
0406290710	6/29/2004	1745	Tues	Margaret	2	Rear end	2	Day	
0406290714	6/29/2004	1755	Tues	Margaret	2	Rear end	1	Day	
0407020623	7/2/2004	1629	Fri	7th Av	3	Rear end	1	Day	
0407070720	7/7/2004	1718	Wed	Loretta	6	Rear end	4	Day	
0407080201	7/8/2004	810	Thurs	Norris	2	Left turn	3	Day	Turning from Norris
0407140200	7/14/2004	756	Wed	Swan	5	Rear end	3	Day	Multi-lane
0407160736	7/16/2004	1724	Fri	Swan	2	Rear end	2	Day	
0407190220	7/19/2004	806	Mon	Tueson	4	Rear end	2	Day	
0407210675	7/21/2004	1658	Wed	Stone	2	Rear end	2	Day	
0407210740	7/21/2004	1758	Wed	Loretta	2	Rear end	2	Day	
0407270181	7/27/2004	738	Tues	1st Av	2	Other	3	Day	Car hit bicyclist
0408030679	8/3/2004	1700	Tues	Park	2	Angle	2	Day	Ran red light
0408040703	8/4/2004	1805	Wed	Tueson	2	Angle	1	Day	Ran red light
0408090884	8/9/2004	1708	Mon	Stone	2	Angle	1	Day	Ran red light
0408100657	8/10/2004	1653	Tues	1st Av	2	Rear end	2	Day	
0408100685	8/10/2004	1721	Tues	6th Av	2	Rear end	1	Day	
0408110189	8/11/2004	755	Wed	Rita	2	Right turn	2	Day	
0408120650	8/12/2004	1635	Thu	Edith	2	Left turn	1	Day	Turning from Edith
0408200685	8/20/2004	1636	Fri	1st Av	2	Rear end	1	Day	
0408200759	8/20/2004	1737	Fri	Estrella	2	Rear end	1	Day	
0408200785	8/20/2004	1754	Fri	6th Av	3	Rear end	2	Day	
0408230175	8/23/2004	723	Mon	Stone	2	Sideswipe (same direction)	1	Day	
0408230759	8/23/2004	1712	Mon	Chrysler	2	Angle	1	Day	Attempting to turn through traffic
0408240737	8/24/2004	1741	Tue	Estrella	2	Pedaleycle	3	Day	
0408270204	8/27/2004	739	Fri	Treat	3	Rear end	1	Day	
0408270474	8/27/2004	1727	Fri	Dodge	4	Rear end	1	Day	
0408300272	8/30/2004	845	Mon	6th Av	2	Left turn	1	Day	Turning from Grant



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	Comment
0408300740	8/30/2004	1650	Mon	6th Av	2	Rear end	2	Day	
0408310258	8/31/2004	859	Tue	Camilla	2	Angle	2	Day	Making left from Grant
0408310754	8/31/2004	1751	Tues	6th Av	3	Angle	1	Day	Ran red light
0409010188	9/1/2004	728	Wed	Richey	2	Angle	2	Day	Left turn in traffic
0409080731	9/8/2004	1725	Wed	Venice	2	Rear end	2	Day	
0409090774	9/9/2004	1733	Thurs	Stone	2	Rear end	1	Dusk	
0409130784	9/13/2004	1753	Mon	Elaine	2	Rear end	1	Dusk	
0409170630	9/17/2004	1606	Fri	6th Av	3	Rear end	1	Day	
0409170685	9/17/2004	1704	Fri	Treat	5	Rear end	3	Day	
0409230206	9/23/2004	852	Thu	Country Club	2	Rear end	4	Day	
0409230642	9/23/2004	1657	Thurs	Swan	2	Rear end	1	Day	
0409280163	9/28/2004	718	Tues	Tucson	2	Left turn	3	Day	Turning from Grant
0410040784	10/4/2004	1744	Mon	Forgeus	2	Rear end	1	Dusk	
0410080720	10/8/2004	1613	Fri	Camilla	2	Sideswipe (same direction)	1	Day	
0410110157	10/11/2004	739	Mon	Camilla	2	Rear end	1	Day	
0410120611	10/12/2004	1617	Tue	Dodge	2	Rear end	2	Day	
0410130603	10/13/2004	1612	Wed	Palo Verde	2	Rear end	3	Day	
0410150216	10/15/2004	807	Fri	Country Club	2	Rear end	1	Day	
0411010188	11/1/2004	723	Mon	Swan	2	Rear end	1	Day	
0411010723	11/1/2004	1715	Mon	Edith	2	Pedalcycle	2	Day	
0411040814	11/4/2004	1759	Thurs	Northway	2	Left turn	3	Dusk	Turning from Grant
0411070324	11/7/2004	847	Sun	Haskell	2	Sideswipe (same direction)	1	Day	
0411080666	11/8/2004	1710	Mon	Camilla	2	Left turn	1	Day	Turning from Camilla
0411080667	11/8/2004	1711	Mon	Swan	2	Left turn	3	Day	Turning from Grant
0411090691	11/9/2004	1700	Tue	Columbus	2	Head-On	3	Dusk	
0411180661	11/18/2004	1643	Thu	Columbus	2	Rear end	1	Day	
0411220609	11/22/2004	1615	Mon	Tucson	2	Rear end	3	Day	
0411300582	11/30/2004	1713	Tues	6th Av	2	Rear end	1	Day	
0411300593	11/30/2004	1724	Tues	Tucson	2	Left turn	1	Dusk	Turning from Grant

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	Comment
0412010147	12/1/2004	815	Wed	Dodge	2	Sideswipe (same direction)	1	Day	
0412010531	12/1/2004	1613	Wed	Richey	2	Pedalcycle	2	Day	
0412070593	12/1/2004	1731	Wed	Tucson	2	Rear end	1	Dusk	
0412020655	12/2/2004	1728	Thu	Dodge	3	Rear end	1	Dusk	
0412020683	12/2/2004	1751	Thu	6th Av	4	Rear end	2	Dark	
0412030152	12/3/2004	732	Fri	Forgeus	5	Rear end	1	Day	
0412030195	12/3/2004	852	Fri	Swan	2	Angle	1	Day	Ran red light
0412060676	12/6/2004	1738	Mon	Mountain	2	Rear end	2	Day	
0412060670	12/6/2004	1738	Mon	Haskell	2	Sideswipe (same direction)	1	Dark	
0412090631	12/9/2004	1646	Thu	6th Av	2	Rear end	1	Dusk	
0414100722	12/10/2004	1718	Fri	Swan	2	Rear end	1	Day	
0412130191	12/13/2004	833	Mon	Vine	2	Left turn	1	Day	Turning from Vine
0412130624	12/13/2004	1611	Mon	1st Av	2	Rear end	1	Day	
0412140643	12/14/2004	1604	Tue	Dodge	2	Rear end	1	Day	
0412170652	12/17/2004	1643	Fri	Dodge	2	Rear end	2	Day	
0412290197	12/29/2004	844	Wed	Mountain	2	Sideswipe (same direction)	3	Day	
0412300568	12/30/2004	1644	Thurs	6th Av	2	Rear end	1	Day	
0501040203	1/4/2005	843	Tue	1st Av	2	Rear end	1	Day	
0501050132	1/5/2005	730	Wed	Flores	2	Rear end	1	Day	
0501050654	1/5/2005	1745	Wed	Palo Verde	2	Pedestrian	2	Dusk	In ped crosswalk
0501070696	1/7/2005	1757	Fri	Tucson	3	Rear end	3	Dark	
0501120628	1/12/2005	1644	Wed	2nd Av	2	Angle	1	Day	Pulling out through stopped traffic
0501140193	1/14/2005	831	Fri	Mountain	2	Left turn	1	Day	Turning from Grant
0501170181	1/17/2005	719	Mon	Santa Rita	2	Rear end	2	Dawn	
0501180624	1/18/2005	1610	Tue	Dodge	2	Left turn	4	Day	Turning from Grant
0501210685	1/21/2005	1654	Fri	Mountain	2	Left turn	1	Day	Turning from Grant
0501240158	1/24/2005	701	Mon	Dodge	4	Rear end	1	Dark	
0501260672	1/26/2005	1731	Wed	Margaret	5	Rear end	2	Dusk	
0501270184	1/27/2005	745	Thurs	Madelyn	2	Rear end	1	Day	



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	Comment
0501270236	1/27/2005	848	Thurs	Stone	3	Rear end	3	Day	
0501310716	1/31/2005	1749	Mon	Alvernon	2	Angle	1	Day	Pulling out from private dr.
0502010139	2/1/2005	758	Tues	Goyette	2	Left turn	1	Day	Turning from Goyette
0502070696	2/7/2005	1623	Mon	Sparkman	2	Right turn	1	Day	
0502080171	2/8/2005	808	Tues	Campbell	2	Rear end	1	Day	
0502090150	2/9/2005	751	Wed	Country Club	2	Rear end	1	Day	
0502100716	2/10/2005	1751	Thurs	6th Av	2	Rear end	1	Dusk	
0502110693	2/11/2005	1723	Fri	Dodge	2	Rear end	3	Dusk	
0502110699	2/11/2005	1728	Fri	Country Club	2	Left turn	3	Day	Turning from Grant
0502140743	2/14/2005	1712	Mon	10th Av	2	Rear end	2	Day	
0502180686	2/18/2005	1647	Fri	Country Club	2	Pedestrian	2	Day	
0502210610	2/21/2005	1608	Mon	Dodge	2	U-Turn	1	Day	
0502280134	2/28/2005	712	Mon	Park	2	Angle	2	Day	Ran red light
0503080617	3/8/2005	1651	Tues	Swan	2	Angle	3	Day	Pulled out of driveway
0503080178	3/8/2005	848	Tues	4th Av	2	Pedestrian	4	Day	
0503090181	3/9/2005	832	Wed	Elaine	3	Rear end	3	Day	
0503110747	3/11/2005	1745	Fri	Alvernon	2	Rear end	1	Day	
0503140229	3/14/2005	852	Mon	Swan	1	Non-contact motorcycle	2	Day	
0503170678	3/17/2005	1727	Thurs	Swan	2	Rear end	1	Dusk	
0503240153	3/24/2005	720	Thurs	Orchard	2	Rear end	1	Day	
0503250753	3/25/2005	1729	Fri	Mountain	2	Pedalcycle	4	Day	
0503290160	3/29/2005	748	Tues	Alvernon	3	Rear end	1	Day	
0503300122	3/30/2005	740	Wed	Campbell	4	Rear end	1	Day	
0503300651	3/30/2005	1654	Wed	Margaret	2	Rear end	3	Day	
0503300614	3/30/2005	1715	Wed	Stone	2	Left turn	1	Day	Turned from center lane
0503310629	3/31/2005	1611	Thurs	Stone	2	Angle	1	Day	Ran red light
0504040740	4/4/2005	1726	Mon	1st Av	2	Angle	3	Day	Ran red light
0504040739	4/4/2005	1726	Mon	Sycamore	2	Sideswipe (same direction)	1	Day	
0504050723	4/5/2005	1751	Tues	Stone	2	Angle	1	Day	Ran red light
0504070222	4/7/2005	832	Thurs	Tucson	2	Rear end	1	Day	

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	Comment
0504080646	4/8/2005	1603	Fri	Dodge	4	Rear end	3	Day	
0504110191	4/11/2005	832	Mon	Edith	2	Rear end	1	Day	
0504130686	4/13/2005	1754	Wed	Walnut	2	Angle	1	Day	Ran stop sign
0504150737	4/15/2005	1715	Fri	Alvernon	2	Rear end	3	Day	
0504190202	4/19/2005	842	Tues	Country Club	2	Rear end	1	Day	
0504220163	4/22/2005	733	Fri	Treat	2	Rear end	1	Day	
0504220183	4/22/2005	807	Fri	Country Club	3	Rear end	1	Day	
0504250670	4/25/2005	1644	Mon	Alvernon	2	Rear end	1	Day	
0504260611	4/26/2005	1615	Tues	Swan	4	Rear end	1	Day	
0504260621	4/26/2005	1623	Tues	Park	2	Left turn	1	Dusk	Turning from Park
0504270680	4/27/2005	1641	Wed	Swan	3	Rear end	2	Day	
0505030703	5/3/2005	1747	Tues	Margaret	3	Rear end	2	Day	
0505090688	5/9/2005	1603	Mon	Columbus	2	Rear end	2	Day	
0505180231	5/18/2005	847	Wed	Dodge	4	Rear end	2	Day	
0505230225	5/23/2005	820	Mon	Mountain	2	Rear end	1	Day	
0505250249	5/25/2005	831	Wed	Country Club	2	Rear end	3	Day	
0505230183	5/23/2005	738	Mon	Alvernon	2	Rear end	1	Day	
0505300679	5/30/2005	1739	Mon	Treat	2	Rear end	2	Day	
0506030640	6/3/2005	1647	Fri	9th Av	2	Sideswipe (opp direction)	1	Day	
0506090696	6/9/2005	1738	Thurs	7th Av	2	Left turn	3	Day	
0506100609	6/10/2005	1605	Fri	Alvernon	2	Left turn	1	Day	
0506130225	6/13/2005	839	Mon	Olsen	2	Sideswipe (same direction)	1	Day	
0506140635	6/14/2005	1709	Tues	Tucson	2	Rear end	1	Day	
0506170674	6/17/2005	1645	Fri	3rd Av	3	Rear end	1	Day	

Injury Code:

1: No Injury

2: Possible Injury

3: Non Incapacitating Injury

4: Incapacitating Injury

5: Fatal Injury

6: Not Reported/Unknown



# Broadway Boulevard Crash Data

Before Crashes On Broadway Blvd.

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	Comment
9802200496	2/20/1998	1639	Fri	Campbell	2	Angle	2	Day	
9802260430	2/26/1998	1615	Thur	Tucson	2	Angle	1	Day	
9803030448	3/3/1998	1612	Tue	Campbell	2	Angle	2	Day	Y
9803120503	3/12/1998	1610	Thur	Treat	2	Rear End	2	Day	
9803180503	3/18/1998	1601	Wed	Campbell	2	Rear End	1	Day	
9803240524	3/24/1998	1721	Tue	Country Club	2	Rear End	2	Day	
9803270545	3/27/1998	1701	Fri	Olsen	3	Rear End	1	Day	
9803310510	3/1/1998	1703	Tue	Country Club	2	Rear End	3	Day	
9804090455	4/9/1998	1637	Thur	Plumer	2	Rear End	1	Day	
9804100158	4/10/1998	754	Fri	Plumer	3	Rear End	2	Day	Y
9804130506	4/13/1998	1601	Mon	Plumer	2	Rear End	1	Day	
9804170569	4/17/1998	1738	Fri	Stewart	3	Rear End	2	Day	
9804200529	4/20/1998	1649	Mon	Stewart	2	Rear End	1	Day	
9804220506	4/22/1998	1633	Wed	Mountain	2	Rear End	1	Day	
9804220539	4/22/1998	1637	Wed	Mountain	2	Rear End	1	Day	
9804240185	4/24/1998	750	Fri	Park	2	Sideswipe	1	Day	
9804270487	4/27/1998	1621	Mon	Tucson	2	Rear End	2	Day	Y
9804270527	4/27/1998	1700	Mon	Stewart	2	Sideswipe (same direction)	4	Day	Y
9805050618	5/5/1998	1735	Tue	Campbell	2	Sideswipe (same direction)	1	Day	Y
9805060595	5/6/1998	1733	Wed	Treat	2	Rear End	3	Day	Y
9805130203	5/13/1998	856	Wed	Tyndall	2	Sideswipe	1	Day	
9805280189	5/28/1998	830	Thur	Campbell	2	Head On	6	Day	Y
9806120504	6/12/1998	1621	Fri	Norris	2	Sideswipe (same direction)	4	Day	Y
9806180450	6/18/1998	1601	Thur	Norton	2	Rear End	2	Day	
9806300525	6/30/1998	1712	Tue	Country Club	1	Single Vehicle	1	Day	
9807100213	7/10/1998	830	Fri	Campbell	2	Sideswipe	1	Day	Y
9808130579	8/13/1998	1738	Thur	Treat	2	Rear End	2	Twilt	
9809010564	9/1/1998	1759	Tue	Stewart	2	Rear End	1	Day	
9809040183	9/4/1998	822	Fri	Plumer	2	Rear End	1	Day	
9809040546	9/4/1998	1640	Fri	Plumer	2	Rear End	1	Day	

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?
9809080155	9/8/1998	750	Tue	Highland	1	Single Vehicle	1	Day	
9809110658	9/11/1998	1750	Fri	Campbell	2	Angle	1	Twlt	Y
9809140173	9/14/1998	747	Mon	Norris	2	Rear End	2	Day	
9809150475	9/15/1998	1652	Tue	Highland	2	Angle	1	Day	
9809220146	9/22/1998	750	Tue	Campbell	2	Rear End	1	Day	
9809300208	9/30/1998	849	Thur	Euclid	2	Rear End	1	Day	
9810080634	10/8/1998	1719	Thur	Stewart	2	Rear End	1	Day	
9810210616	10/21/1998	1718	Wed	Tucson	2	Rear End	2	Day	Y
9810230687	10/23/1998	1744	Fri	Campbell	4	Rear End	1	Twlt	
9811130477	11/13/1998	1625	Fri	Plumer	2	Left Turn	4	Day	Y
9811190417	11/19/1998	1607	Thur	Smith	2	Sideswipe (same direction)	1	Day	Y
9812020531	12/2/1998	1652	Wed	Country Club	4	Rear End	2	Night	
9812040552	12/4/1998	1707	Fri	Stratford	3	Right Turn	1	Twlt	
9812110514	12/11/1998	1639	Fri	Stewart	1	No contact hit and run	1	Day	Y
9812110562	12/11/1998	1732	Fri	Plumer	1	Single Vehicle	2	Dark	
9812220159	12/22/1998	850	Tue	Olsen	2	Left Turn	1	Day	Y
9812290415	12/29/1998	1605	Tue	Olsen	2	Left Turn	2	Day	
9901200457	1/20/1999	1614	Wed	Plumer	2	Sideswipe (same direction)	6	Day	Y
9901210177	1/21/1999	855	Thur	Stratford	2	Sideswipe (same direction)	2	Day	
9902250527	2/25/1999	1730	Thur	Plumer	2	Sideswipe (same direction)	1	Day	Y
9903120167	3/12/1999	852	Fri	Campbell	2	Backing	1	Day	Y
9903230481	3/23/1999	1655	Tue	Eastbourne	2	Rear End	2	Day	Y
9903250138	3/25/1999	752	Thur	Treat	2	Rear End	1	Day	
9904060125	4/6/1999	805	Tue	Plumer	1	Pedestrian	2	Day	
9904260142	4/26/1999	758	Mon	Campbell	2	Rear End	1	Day	Y
9905040494	5/4/1999	1621	Tue	Country Club	2	Rear End	1	Day	
9905110515	5/11/1999	1716	Tue	Cherry	2	Rear End	3	Day	
9905130625	5/13/1999	1735	Thur	Treat	2	Right Turn	3	Day	
9905280509	5/28/1999	1645	Fri	Plumer	2	Rear End	2	Day	Y
9906020521	6/2/1999	1643	Wed	Eastbourne	2	Sideswipe (same direction)	6	Day	
9906030506	6/3/1999	1708	Thur	Park	2	Sideswipe (same direction)	1	Day	
9906040507	6/4/1999	1641	Fri	Country Club	2	Right Turn	1	Day	
9907020591	7/2/1999	1709	Fri	Plumer	2	Sideswipe (same direction)	1	Day	Y



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?
9907060553	7/6/1999	1608	Tue	Eastbourne	4	Rear End	2	Day	
9907070626	7/7/1999	1651	Wed	Norton	3	Rear End	3	Day	
9907270610	7/27/1999	1723	Tue	Treat	2	Rear End	2	Day	
9907280481	7/28/1999	1635	Wed	Campbell	4	Rear End	2	Day	
9907290500	7/29/1999	1620	Thur	Norton	2	Rear End	2	Day	
9908060638	8/6/1999	1756	Fri	Cherry	2	Sideswipe	2	Day	Y
9908090656	8/9/1999	1724	Mon	Eastbourne	2	Rear End	1	Day	
9908250550	8/25/1999	1650	Wed	Olsen	2	Left Turn	1	Day	
9909210594	9/21/1999	1722	Tue	Campbell	2	Rear End	1	Day	
9909220618	9/22/1999	1704	Wed	Plumer	1	Left Turn	1	Twilt	Y
9910040609	10/4/1999	1721	Mon	Olsen	3	Rear End	1	Day	
9910280580	10/28/1999	1628	Thur	Eastbourne	2	Sideswipe (same direction)	1	Day	
9910280592	10/28/1999	1639	Thur	Campbell	2	Rear End	1	Day	
9911050561	11/5/1999	1614	Fri	Plumer	2	Angle	2	Day	
9911110711	11/11/1999	1759	Thur	Martin	2	Rear End	2	Dark	
9911180553	11/18/1999	1650	Thur	Kino Parkway	2	Rear End	2	Day	
9912010608	12/1/1999	1750	Wed	Norton	2	Rear End	1	Dark	
9912030592	12/3/1999	1748	Fri	Stewart	2	Rear End	1	Day	
9912070183	12/7/1999	843	Tue	Martin	2	Sideswipe	1	Day	Y
0001070109	1/7/2000	724	Fri	Norris	2	Rear End	1	Twilt	
0001180603	1/18/2000	1728	Tue	Kino Parkway	2	Rear End	1	Day	
0001240491	1/24/2000	1605	Mon	Plumer	2	Angle	1	Day	
0002010556	2/1/2000	1658	Tue	Olsen	2	Angle	2	Day	Y
0002070562	2/7/2000	1644	Mon	Olsen	2	Left Turn	1	Day	Y
0002100646	2/10/2000	1722	Thur	Tucson	3	Rear End	2	Day	
0002150577	2/15/2000	1701	Tue	Tucson	2	Angle	3	Day	
0002150610	2/15/2000	172	Tue	Plumer	3	Angle	3	Day	
0002170622	2/17/2000	1726	Thur	Stewart	4	Rear End	1	Day	
0002280635	2/28/2000	1727	Mon	Norris	2	Other	1	Day	
0003020509	3/2/2000	1603	Thur	Tucson	2	Sideswipe (same direction)	1	Day	
0003090577	3/9/2000	1728	Thur	Country Club	2	Rear End	2	Day	
0003140444	3/14/2000	1609	Tue	Tucson	2	Angle	1	Day	
0003150509	3/15/2000	1602	Wed	Martin	2	Rear End	2	Day	

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?
0003150537	3/15/2000	1631	Wed	Plumer	3	Rear End	1	Day	
0003170610	3/17/2000	1630	Fri	Euclid	2	Rear End	1	Day	
0003170640	3/17/2000	1701	Fri	Tucson	2	Rear End	2	Day	
0003240589	3/24/2000	1627	Fri	Stratford	3	Rear End	1	Day	
0003240635	3/24/2000	1704	Fri	Treat	3	Rear End	1	Day	
0003290500	3/29/2000	1627	Wed	Campbell	3	Rear End	2	Day	
0003290534	3/29/2000	1730	Wed	Highland	2	Rear End	1	Day	Y
0003310134	3/31/2000	730	Fri	Campbell	1	Pedestrian	3	Day	Y
0004110651	4/11/2000	1714	Tue	Santa Rita	2	Sideswipe (same direction)	1	Day	
0004190566	4/19/2000	1718	Wed	Campbell	2	Right Turn	1	Day	
0004250585	4/25/2000	1706	Tue	Park	2	Sideswipe (same direction)	1	Day	Y
0005120592	5/12/2000	1617	Fri	Tyndall	2	Sideswipe (same direction)	1	Day	
0005120650	5/12/2000	1713	Fri	Eastbourne	2	Rear End	1	Day	Y
0005220619	5/22/2000	1744	Mon	Tucson	2	Angle	2	Day	
0005250621	5/25/2000	1720	Thur	Cherry	2	Angle	2	Day	Y
0005260587	5/26/2000	1637	Fri	Country Club	2	Rear End	1	Day	
0006020596	6/2/2000	1642	Fri	Campbell	2	Rear End	1	Day	
0007050224	7/5/2000	814	Wed	Campbell	2	Angle	2	Day	
0007070635	7/7/2000	1705	Fri	Stewart	3	Rear End	3	Day	
0007120529	7/12/2000	1622	Wed	Campbell	3	Rear End	1	Day	
0007170644	7/17/2000	1759	Mon	Campbell	2	Sideswipe (same direction)	1	Day	
0008020590	8/2/2000	1720	Wed	Fremont	2	Angle	1	Day	
0008160538	8/16/2000	1621	Wed	Tucson	2	Sideswipe (same direction)	2	Day	Y
0008210593	8/21/2000	1638	Mon	Park	2	Rear End	2	Day	
0008240169	8/24/2000	709	Thur	Park	2	Rear End	1	Day	
0009130588	9/13/2000	1705	Wed	Tucson	2	Angle	1	Day	
0009150238	9/15/2000	845	Fri	Highland	3	Rear End	1	Day	Y
0009190514	9/19/2000	1603	Fri	Norris	2	Rear End	1	Day	
0010050186	10/5/2000	841	Tue	Tucson	2	Right Turn	1	Day	
0010060213	10/6/2000	819	Fri	Plumer	2	Rear End	1	Day	
0010190119	10/19/2000	723	Tue	Highland	2	Right Turn	1	Day	
0010230180	10/23/2000	831	Mon	Plumer	1	Single Vehicle	3	Day	
0010250597	10/25/2000	1725	Wed	Tucson	2	Sideswipe (same direction)	1	Twlt	Y



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark	In reversible lane?
0010300158	10/30/2000	810	Mon	Park	2	Sideswipe (same direction)	1	Day	
0010310516	10/31/2000	1624	Tue	Olsen	2	Rear End	2	Day	
0011060610	11/6/2000	1719	Mon	Park	2	Sideswipe (same direction)	1	Twlt	
0011070172	11/7/2000	848	Tue	Tucson	2	Rear End	2	Day	
0011180548	11/18/2000	1614	Thur	Eastbourne	2	Rear End	1	Day	
0012200560	12/20/2000	1600	Wed	Plumer	3	Rear End	3	Day	
0101190598	1/19/2001	1727	Fri	Plumer	2	Rear End	1	Twlt	
0101240558	1/24/2001	1720	Wed	Campbell	2	Angle	2	Twlt	
0102070674	2/7/2001	1652	Wed	Tucson	2	Sideswipe (same direction)	1	Day	
0102120599	2/12/2001	1659	Mon	Country Club	3	Rear End	2	Day	

Injury Code:

1: No Injury

2: Possible Injury

3: Non Incapacitating Injury

4: Incapacitating Injury

5: Fatal Injury

6: Not Reported/Unknown

After Crashes On Broadway  
Blvd.

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark
0102200613	2/20/2001	1657	Tue	Tucson	2	Rear End	1	Day
0103090172	3/9/2001	738	Fri	Olsen	3	Rear End	3	Day
0103090186	3/9/2001	800	Fri	Vine	2	Sideswipe (same direction)	1	Day
0103190188	3/19/2001	832	Mon	Campbell	2	Angle	3	Day
0104020649	4/2/2001	1641	Mon	Plumer	4	Rear End	1	Day
0104240153	4/24/2001	800	Tue	Treat	2	Rear End	1	Day
0104260223	4/26/2001	854	Thu	Park	2	Rear End	2	Day
0105020645	5/2/2001	1649	Wed	Plumer	2	Rear End	3	Day
0105150211	5/15/2001	831	Tue	Olsen	2	Rear End	3	Day
0105250803	5/25/2001	1715	Fri	Plumer	3	Rear End	2	Day
0106060625	6/6/2001	1647	Wed	Campbell	2	Rear End	6	Day
0106130217	6/13/2001	832	Wed	Plumer	2	Rear End	1	Day
0106220670	6/22/2001	1704	Fri	Tucson	2	Rear End	1	Day
0106260225	6/26/2001	900	Tue	Olsen	2	Rear End	2	Day
0106280200	6/28/2001	804	Thu	Plumer	1	Single Vehicle	3	Day
0107250196	7/25/2001	715	Wed	Campbell	2	Angle	1	Day
0107250617	7/25/2001	1640	Wed	Tyndall	2	Rear End	1	Day
0108030694	8/3/2001	1718	Fri	Tucson	2	Rear End	2	Day
0108070185	8/7/2001	800	Tue	Campbell	2	Right Turn	2	Day
0108130179	8/13/2001	831	Mon	Tucson	2	Angle	6	Day
0708230195	8/23/2001	819	Thu	Highland	2	Angle	3	Day
0109060185	9/6/2001	813	Thu	Plumer	2	Left Turn	1	Day
0109210755	9/21/2001	1733	Fri	Stewart	2	Rear End	1	Day
0110080701	10/5/2001	1610	Mon	Country Club	2	Rear End	1	Day
0110290201	10/29/2001	848	Mon	Campbell	2	Rear End	1	Day
0111010568	11/1/2001	1641	Thu	Campbell	2	Rear End	1	Day
0111020211	11/2/2001	837	Fri	Campbell	2	Rear End	2	Day
0111050216	11/5/2001	838	Mon	Plumer	2	Rear End	1	Day
0111140723	11/14/2001	1730	Wed	Plumer	1	Other	1	Twilt
0201020615	1/2/2002	1731	Wed	Campbell	2	Backing	1	Day



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark
0201070548	1/7/2002	1633	Mon	Kino	2	Rear End	1	Day
0201310174	1/31/2002	827	Thu	Stewart	2	Rear End	1	Day
0202080675	2/8/2002	1721	Fri	Campbell	2	Rear End	6	Day
0202120127	2/12/2002	725	Tue	Euclid	2	Sideswipe (same direction)	6	Day
0202130623	2/13/2002	1703	Wed	Tucson	2	Left Turn	3	Twilt
0202190688	2/19/2002	1739	Tue	Cherry	4	Rear End	4	Twilt
0203190628	3/19/2002	1630	Tue	Cherry	2	Rear End	2	Day
0203210622	3/21/2002	1651	Thu	Smith	2	Rear End	1	Day
0203260145	3/26/2002	757	Tue	Martin	4	Rear End	2	Day
0203280618	3/28/2002	1700	Thu	Campbell	2	Rear End	1	Day
0204230188	4/23/2002	830	Tue	Country Club	1	Single Vehicle	3	Day
0204230609	4/23/2002	1626	Tue	Tucson	2	Rear End	1	Day
0205070593	5/7/2002	1613	Tue	Euclid	2	Rear End	2	Day
0205170745	5/17/2002	1739	Fri	Eastbourne	2	Rear End	1	Day
0205220156	5/22/2002	714	Wed	Park	2	Angle	2	Day
0205310226	5/31/2002	826	Fri	Plumer	2	Rear End	1	Day
0206070564	6/7/2002	1620	Fri	Park	2	Rear End	3	Day
0206200779	6/20/2002	1727	Tue	Plumer	2	Rear End	2	Day
0206210220	6/21/2002	845	Fri	Park	1	Single Vehicle	3	Day
0206270576	6/27/2002	1614	Thu	Treat	2	Sideswipe (same direction)	4	Day
0207120626	7/12/2002	1724	Fri	Highland	4	Rear End	2	Day
0208210666	8/21/2002	1634	Wed	Treat	2	Sideswipe (same direction)	1	Day
0209040715	9/4/2002	1717	Wed	Kino	2	Backing	1	Day
0209060802	9/6/2002	1754	Fri	Euclid	2	Sideswipe	1	Twilt
0209190679	9/19/2002	1728	Thu	Plumer	2	Angle	3	Day
0210040677	10/4/2002	1800	Fri	Country Club	2	Rear End	1	Day
0210080164	10/8/2002	744	Tue	Plumer	2	Rear End	1	Day
0210100173	10/10/2002	747	Thu	Tucson	3	Rear End	1	Day
0210220619	10/22/2002	1634	Tue	Park	2	Rear End	1	Day
0210230572	10/23/2002	1607	Wed	Plumer	3	Rear End	1	Day
0210240732	10/24/2002	1754	Thu	Tucson	2	Rear End	2	Day
0211050545	11/5/2002	1630	Tue	Plumer	3	Rear End	2	Day
0211050621	11/5/2002	1733	Tue	Vine	2	Rear End	1	Twilt

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark
0211180545	11/18/2002	1617	Mon	Country Club	2	Rear End	1	Day
0211260577	11/26/2002	1620	Tue	Campbell	1	Pedestrian	1	Day
0212100612	12/10/2002	1715	Tue	Campbell	2	Rear End	6	Twit
0301020147	1/2/2003	843	Thu	Plumer	2	Angle	2	Day
0301080579	1/8/2003	1647	Wed	Martin	2	Left Turn	1	Day
0301130165	1/13/2003	853	Mon	Highland	2	Angle	2	Day
0301170693	1/17/2003	1736	Fri	Campbell	3	Rear End	3	Twit
0301310211	1/31/2003	834	Fri	Plumer	2	Left Turn	2	Day
0302060159	2/6/2003	815	Thu	Plumer	2	Rear End	1	Day
0302140199	2/14/2003	811	Fri	Campbell	2	Rear End	1	Day
0302140770	2/14/2003	1722	Fri	Cherry	2	Sideswipe	2	Twit
0302200587	2/20/2003	1607	Thu	Smith	2	Rear End	3	Day
0303140700	3/14/2003	1733	Fri	Treat	2	Rear End	1	Day
0303310648	3/31/2003	1702	Mon	Norton	2	Rear End	1	Day
0304180705	4/18/2003	1755	Fri	Country Club	2	Left Turn	1	Day
0304280605	4/28/2003	1619	Mon	Plumer	2	Rear End	2	Day
0305070727	5/7/2003	1746	Wed	Tucson	1	Single Vehicle	1	Day
0305130173	5/13/2003	746	Tue	Norris	2	Left Turn	1	Day
0305150729	5/15/2003	1727	Thu	Tucson	4	Rear End	3	Day
0305200192	5/20/2003	834	Tue	Treat	4	Rear End	2	Day
0305210679	5/21/2003	1716	Wed	Martin	2	Left Turn	1	Day
0305290585	5/29/2003	1704	Thu	Vine	2	Left Turn	2	Day
0306020686	6/2/2003	1729	Mon	Eastbourne	3	Rear End	2	Day
0307100690	7/10/2003	1720	Thu	Plumer	3	Rear End	2	Day
0307160630	7/16/2003	1646	Wed	Campbell	2	Rear End	2	Day
0307290214	7/29/2003	900	Tue	Campbell	3	Rear End	2	Day
0308040661	8/4/2003	1649	Mon	Stewart	2	Rear End	1	Day
0308050187	8/5/2003	757	Tue	Tucson	3	Left Turn	1	Day
0308060192	8/6/2003	810	Wed	Campbell	3	Rear End	1	Day
0308130304	8/13/2003	820	Wed	Treat	2	Rear End	2	Day
0308200261	8/20/2003	829	Wed	Olsen	2	Sideswipe (same direction)	6	Day
0309030202	9/3/2003	747	Wed	Cherry	2	Left Turn	2	Day
0309030209	9/3/2003	808	Wed	Tucson	2	Sideswipe	2	Day

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark
0309030815	9/3/2003	1615	Wed	Tucson	2	Rear End	1	Day
0309030750	9/3/2003	1624	Wed	Tucson	2	Rear End	1	Day
0309080865	9/8/2003	1752	Mon	Country Club	3	Rear End	3	Twilt
0309160753	9/16/2003	1752	Tue	Tucson	2	Angle	2	Twilt
0309240791	9/24/2003	1634	Wed	Martin	2	Other	2	Day
0311070616	11/7/2003	1613	Fri	Tucson	2	Rear End	1	Day
0311070652	11/7/2003	1642	Fri	Plumer	2	Left Turn	1	Twilt
0311100160	11/10/2003	713	Mon	Plumer	2	Rear End	1	Day
0312010741	12/1/2003	1735	Mon	Country Club	2	Rear End	2	Twilt
0312090189	12/9/2003	859	Tue	Warren	2	Rear End	1	Day
0312180755	12/18/2003	1729	Thu	Tucson	2	Rear End	1	Darkness
0312190809	12/19/2003	1724	Fri	Tucson	2	Left Turn	2	Twilt
0402110688	2/11/2004	1735	Wed	Plumer	2	Rear End	2	Twilt
0402180736	2/18/2004	1743	Wed	Stewart	2	Left Turn	2	Day
0406220230	6/22/2004	825	Tues	Eastbourn	2	Rear end	1	Day
0407070734	7/7/2004	1727	Wed	Tucson	3	Rear end	6	Day
0407070740	7/7/2004	1732	Wed	Plumer	1	U-Turn	2	Day
0407120711	7/12/2004	1742	Mon	Country Club	3	Left Turn	1	Day
0407160706	7/16/2004	1701	Fri	Tucson	2	Rear end	1	Day
0407200695	7/20/2004	1627	Tues	Country Club	3	Rear end	1	Day
0407220713	7/22/2004	1743	Thu	Country Club	2	Rear end	1	Day
0407270224	7/27/2004	847	Tues	Olsen	2	Rear end	1	Day
0407280670	7/28/2004	1607	Wed	Campbell	2	Rear end	3	Day
0408240630	8/24/2004	1626	Tues	Olsen	2	Rear end	1	Day
0408240685	8/24/2004	1706	Tues	Tucson	2	Rear end	2	Day
0408250177	8/25/2004	724	Wed	Tucson	2	Rear end	1	Day
0408250617	8/25/2004	1651	Wed	Plumer	2	Rear end	1	Day
0408250689	8/25/2004	1746	Wed	Vine	2	Angle	6	Day
0408270704	8/27/2004	1654	Fri	Treat	2	Rear end	1	Day
0409080707	9/8/2004	1704	Wed	Euclid	2	Left Turn	1	Day



Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark
0409090633	9/9/2004	1601	Thu	Plumer	3	Rear end	2	Day
0409090773	9/9/2004	1755	Thu	Treat	2	Rear end	2	Day
0409100666	9/10/2004	1636	Fri	Olsen	2	Angle	1	Day
0409150673	9/15/2004	1654	Wed	Highland	2	U-Turn	2	Day
0409210156	9/21/2004	722	Tues	Euclid	2	Left Turn	3	Day
0409240672	9/24/2004	1705	Fri	Highland	4	Rear end	2	Day
0409270200	9/27/2004	808	Mon	Tucson	2	Right Turn	6	Day
0410050622	10/5/2004	1620	Tues	Park	2	Angle	2	Day
0410060212	10/6/2004	756	Wed	Country Club	2	Rear end	3	Day
0410070735	10/7/2004	1739	Thu	Plumer	3	Rear end	1	Day
0410170190	10/12/2004	745	Tues	Country Club	2	Angle	1	Day
0410190204	10/19/2004	856	Tues	Campbell	2	Left Turn	1	Day
0410260175	10/26/2004	737	Tues	Highland	2	Rear end	1	Day
0410280715	10/28/2004	1640	Thu	Country Club	2	Rear end	1	Day
0410290688	10/29/2004	1619	Fri	Norris	2	Rear end	2	Dusk
0411080208	11/8/2004	858	Mon	Park	2	Rear end	2	Day
0411100619	11/10/2004	1615	Wed	Steward	2	Head on	1	Day
0411170176	11/17/2004	756	Wed	Vine	4	Rear end	2	Day
0411230602	11/23/2004	1730	Tues	Eastbourn	2	Rear end	2	Day
0411300621	11/30/2004	1750	Tues	Eastbourn	2	Rear end	1	Dusk
0412020652	12/2/2004	1654	Thu	Plumer	3	Rear end	2	Dusk
0412300593	12/30/2004	1708	Thu	Plumer	3	Rear end	3	Day
0501060608	1/6/2005	1634	Thu	Cherry	2	Angle	3	Day
0501250568	1/25/2005	1605	Tues	Treat	2	Right Turn	2	Day
0501250616	1/25/2005	1646	Tues	Martin	2	Left Turn	1	Day
0501260585	1/26/2005	1607	Wed	Campbell	2	Rear end	2	Day
0501280683	1/28/2005	1643	Fri	Norris	4	Rear end	1	Day
0502070784	2/7/2005	1739	Mon	Steward	3	Rear end	1	Day
0502180257	2/18/2005	849	Fri	Campbell	2	Rear end	1	Day

Report #	Date	Time	Day	Location/Cross Street	# of Cars	Type	Injury (1-6)	Day/Dark
0503010138	3/1/2005	755	Tues	Treat	3	Rear end	1	Day
0503100715	3/10/2005	1656	Thu	Olsen	2	Pedestrian	3	Day
0503170613	3/17/2005	1627	Thu	Norton	2	Rear end	2	Dusk
0504070668	4/7/2005	1614	Thu	Norris	2	Rear end	1	Day
0504120139	4/12/2005	748	Tues	Olsen	2	Rear end	3	Day
0504120581	4/12/2005	1606	Tues	Norton	2	Rear end	2	Day
0504290229	4/29/2005	816	Fri	Campbell	2	Rear end	3	Day
0505020161	5/2/2005	744	Mon	Olsen	2	Rear end	2	Day
0505030681	5/3/2005	1730	Tues	Tucson	2	Rear end	1	Day
0505160711	5/16/2005	1607	Mon	Treat	2	Rear end	1	Day
0505170215	5/17/2005	855	Tues	Plumer	2	Rear end	1	Day
0505230713	5/23/2005	1706	Mon	Olsen	2	Right Turn	1	Day
0505250869	5/25/2005	1633	Wed	Cherry	2	Rear end	1	Day
0505310671	5/31/2005	1753	Tues	Warren	4	Rear end	1	Day
0505310634	5/31/2005	1633	Tues	Tucson	2	Rear end	2	Day
0506100713	6/10/2005	1736	Fri	Eastbourn	2	Rear end	1	Day
0506150707	6/15/2005	1719	Wed	Euclid	3	Rear end	1	Day
0506170575	6/17/2005	1726	Fri	Plumer	2	Rear end	1	Day

Injury Code:

- 1: No Injury
- 2: Possible Injury
- 3: Non Incapacitating Injury
- 4: Incapacitating Injury
- 5: Fatal Injury
- 6: Not Reported/Unknown